Volume Sixty-One
Number Four • December 2004

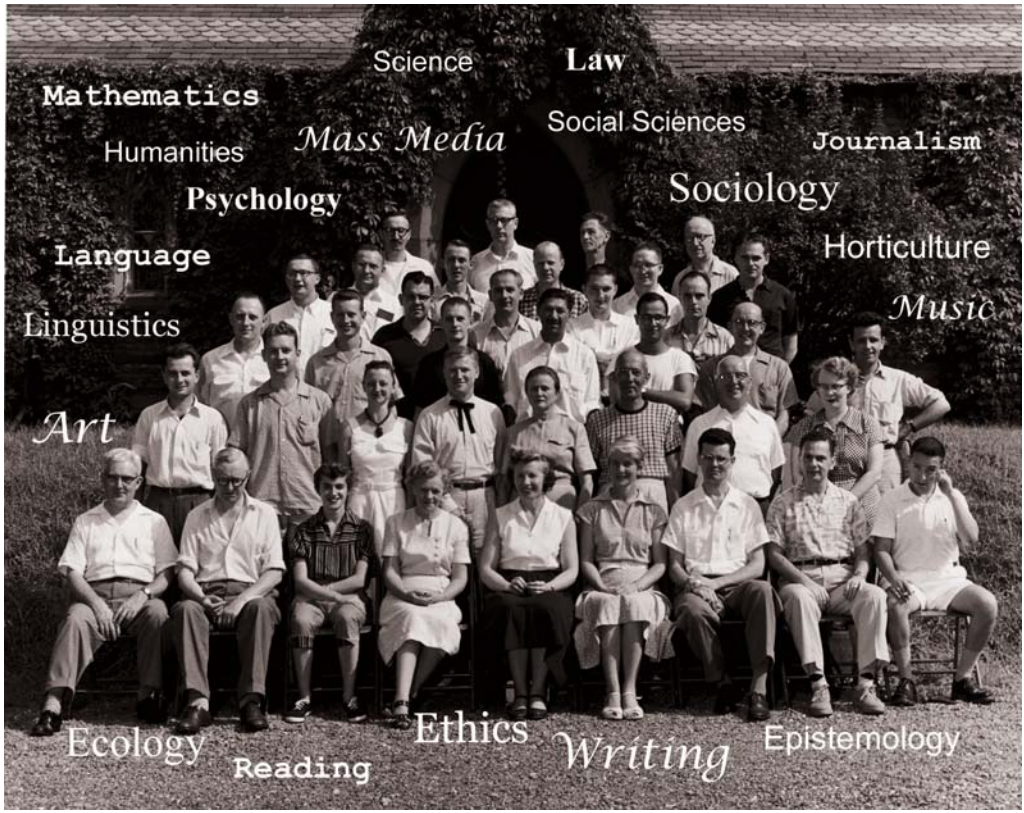
www.time-binding.org

ETC:

A Review of General Semantics

et cetera

General Semantics Across the Curriculum



an expanded issue featuring

A Tribute to Allen Walker Read

ETC was published by the International Society for General Semantics from 1943 to 2003.

ETC: A Review of General Semantics
is an interdisciplinary quarterly published by the Institute of General Semantics.

Editor
Paul Dennithorne Johnston

Guest Editor
Steve Stockdale

Proofreader
Jennifer Carmack

Consulting Editor
Jeremy Klein

Copy Editor
Nora Miller

Institute of General Semantics

Board of Trustees

President: Andrea Johnson (Shorewood, WI)
Vice-President: Irene S. Ross Mayper (Ridgefield, CT)
Secretary: Susan Presby Kodish (Pasadena, CA)
Treasurer: Lynn E. Schuldt (Kenosha, WI)

George Barenholtz (Montclair, NJ)
Sanford I. Berman (Las Vegas, NV)
Laura Bertone (Buenos Aires, Argentina)
Walter W. Davis (Millerton, NY)
Milton Dawes (Montreal, Quebec, Canada)
Allen Flagg (New York, NY)
James D. French, Editor, *General Semantics Bulletin* (Albany, CA)
Gregg Hoffmann (Whitefish Bay, WI)
Bruce I. Kodish (Pasadena, CA)
Martin Levinson (Forest Hills, NY)
Harry E. Maynard (Westport, CT)
Jeffrey A. Mordkowitz (Brooklyn, NY)
Gerard I. Nierenberg (New York, NY)
Robert R. Potter, Recording Secretary (West Cornwall, CT)
Frank Scardilli (New York, NY)

Executive Director: Steve Stockdale (Fort Worth, TX)
Assistant Executive Director: Jennifer Carmack (Fort Worth, TX)

www.time-binding.org

ETC: A Review of General Semantics (ISSN 0014-164X) is published quarterly by the Institute of General Semantics, 1412 Texas Street, P. O. Box 1565, Fort Worth, Texas 76101-1565. Tel: (817) 886-3746. E-mail: igs@time-binding.org. IGS basic membership with *ETC* subscription: $40.00 per year (U.S. currency). Libraries and Institutions: $95.00 per year. Send correspondence regarding subscriptions, membership, back issues, change of address, or business matters to the Institute of General Semantics, P. O. Box 1565, Fort Worth, Texas 76101-1565. Microfilm editions or electronic versions are available from Bell & Howell Information and Learning, Box 1346, Ann Arbor, MI 48106, Tel: (800) 521-0600, and other providers. Publication No. 179120. Periodicals postage paid at Fort Worth, TX, and at additional mailing offices. POSTMASTER: Send address changes to *ETC: A Review of General Semantics*, P.O. Box 1565, Fort Worth, Texas 76101-1565. For writer's guidelines, queries, or manuscript submissions in electronic format send to the Editor of *ETC*, P. O. Box 1565, Fort Worth, Texas 76101-1565, igs@time-binding.org.

contents

Vol. 61, No. 4 December 2004

424 **In this Issue**

425 Steve Stockdale **Introduction**

Tribute to Allen Walker Read

433 Richard W. Bailey **Allen Walker Read, American Scholar**

438 Jesse Levitt **In Memoriam: Allen Walker Read (1906-2002)**

444 Allen Walker Read **The Geolinguistics of Verbal Taboo**

456 Allen Walker Read **Language Revision by Deletion of Absolutisms**

463 **A Bibliography of Allen Walker Read's Articles**

General Semantics Across the Curriculum

464 J.S. Bois **The Worlds in Which We Live**

466 Irving J. Lee **"In Shorts" from Language Habits in Human Affairs**

471 Dona W. Brown **The Use of General Semantics in Teaching the Language Skills in the Eighth Grade**

477 Alfred Fleishman **Teaching General Semantics to Those Less Likely to Succeed: A Teaching Experience with High School Dropouts**

482 Catherine Minteer **What We Observed in Teaching General Semantics**

487 Joseph Brewer **Education and the Modern World**

Copyright © 2004 by the Institute of General Semantics

494 O.R. Bontrager **Re-Education in Reading: A Report of Applications of General Semantics in Remedial Work in Reading**

504 Sonia Leskow **The Use of GS in the Motivation of a Select Group of High School Students: Summary of a Project**

515 Francis P. Chisholm **General Semantics Methodology in College English Teaching: Report of Results in a Freshman English Course at Syracuse University**

527 Wendell Johnson **You Can't Write Writing**

537 Earl English **A General Semantics Course in the School of Journalism**

541 Elton S. Carter **Defining Terms or Describing Things?**

546 D. David Bourland, Jr. **To Be or Not to Be: E-Prime as a Tool for Critical Thinking**

558 Charlotte S. Read **A Short Explanation of the Structural Differential**

560 Stuart Chase **Introduction of Alfred Korzybski**

562 Alfred Korzybski **On General Semantics and Physico-Mathematical Method**

565 Charlotte S. Read **On Sensory Awareness**

567 Harry Holtzman **Abstractions of Visual Abstracting**

570 Marian Van Tuyl **General Semantics in Teaching an Introductory Course in Aesthetics**

575 Stanley Fletcher **Preliminary Notes for a Semantics of Music**

580 Raymond W. Mack **How Scientific is Social Science?**

589 Irvin H. Brune **General Semantics and the Teaching of Mathematics**

600 Irving Langmuir **Science, Common Sense and Decency**

611 William Vogt **On Structure and Survival**

621 Walter Probert **Law Talk and Words Consciousness**

630 Allen Walker Read **Comments Responding to Probert's "Law Talk and Words Consciousness"**

633 David Fairchild **Horticulture as a Field for Investigation of Semantic Reactions**

639 Eleanor Parkhurst **Some Implications of General Semantics Methodology for Social Work**

649 Hartwell E. Scarbrough **General Semantics in the Practice of a Consulting Psychologist**

658 Anatol Rapoport **Foreword to "Science Teaching and the Humanities" by Philipp Frank**

661 Philipp Frank **Science Teaching and the Humanities (Introduction)**

663 Kenneth G. Johnson **Epistemology and Responsibility of the Mass Media**

676 S.I. Hayakawa **Ethics of Time-Binding**

683 Ann Dix Meiers **Avoiding the Dangers of Semantic Adolescence**

690 Wendell Johnson **After You Have Studied General Semantics**

• IN THIS ISSUE •

THE ARTICLES for this special issue of *ETC* were selected by Steve Stockdale, Executive Director of the Institute of General Semantics, from the Institute's library and archives.

Steve is well qualified to make these choices: before taking on his current position, he served as the Institute's official archivist, and he sorted and cataloged the Institute's books, monographs, letters, photographs, and other precious archives. I envy Steve that wonderful opportunity to explore the history and development of general semantics and to gain insights into those thinkers, scholars, writers, and teachers who have contributed so much over the years. His endeavors have paid off. In this issue of *ETC* we find fascinating thought-provoking readings that also include practical information on how to get better results with the task at hand, in teaching, communicating, problem-solving, writing, or some other important aspect of our professional or personal lives.

PAUL DENNITHORNE JOHNSTON
Editor, *ETC*

INTRODUCTION

STEVE STOCKDALE*

AS *TIME-BINDERS*, we inherit the potential to build on the accomplishments of those we follow. Our time-binding legacy comes with many responsibilities, one of which is to recognize and honor our benefactors such that *our* accomplishments not be confused with *theirs*.

This special issue of *ETC* offers a selection of "old school" articles that reflects both the breadth of general semantics, and its relevancy to many of the 'educational' — both institutional *and* individual — challenges that confront us in 2004. Drawn from the archives of this journal, the *General Semantics Bulletin*, and the Institute's library, these articles offer the dual benefits of a) insightful perspective, and b) current relevancy.

For example:

1. Read Walter Probert's "Law Talk and Words Consciousness" from the perspective of the Patriot Act, "zero tolerance" laws and "three strikes and you're out" sentencing mandates.

2. Read Ken Johnson's "Epistemology and Mass Media" and see how it affects your watching, listening, and reading of "the news" in light of the recent "Rathergate" affair.

* Steve Stockdale serves as the Executive Director of the Institute of General Semantics in Fort Worth, Texas.

3. Remembering the hysteria that followed the Janet Jackson "wardrobe malfunction" during the Super Bowl halftime last year, read about the underlying attitudes that result in our various forms of cultural taboos in Allen Walker Read's "The Geolinguistics of Verbal Taboo."

4. Consider the prevalence of disaffected youth, gangs and graffiti wars in cities across the nation, then read "How to Teach General Semantics to Those Less Likely to Succeed" by Alfred Fleishman.

5. Read any of the general descriptions of general semantics — even those intended for secondary school students — and analyze the inability to differentiate *symbol* from *what is symbolized* in this political ad:

   (Shots of the American Flag, Jefferson Monument, Washington Monument)

   Voice-over: Symbols. They represent the best things in America. Freedom … Valor … Sacrifice.

   (Footage of Marine Honor Guard)

   Voice-over: Symbols, like the heroes they represent, are meant to be respected.

   (Footage of WWII Veterans)

   Voice-over: Some didn't share that respect … and turned their backs on their brothers.

   (Footage of anti-war rally/Medal Toss event attended by John Kerry in Washington, April 23, 1971) (Interview with John Kerry, "Viewpoints," 1971)

   Kerry: " … renounce the symbols which country gives … and that was the medals themselves … I gave back — I can't remember — six, seven, eight, nine …"

   (Picture of John Kerry)

   Voice-over: How can the man who renounced his country's symbols now be trusted? (1)

As you read the articles in this compilation, you may notice that certain formulations or principles of GS tend to appear again and again, such as:

- the process of *abstracting*
- problems associated with *identification*, or not recognizing the different orders or levels of *abstracting*
- instances of *allness* thinking-feeling-behaving
- the difference between *extensional* and *intensional* orientations
- failure to distinguish between *facts* and *inferences*
- application of the *extensional devices* — indexes, dates, quotes, hyphens and the *etc.*
- the importance of bringing new ways of thinking to problems; in other words, applying a *scientific attitude* toward everyday life situations

That these formulations tend to be repeated underscores their importance. As Alfred Korzybski was said to have reiterated in his seminars, "you have to *rrrub* it in!" A lesson we might infer from these articles is to not underestimate how difficult it is to consciously apply these 'simple' notions when we need them. It takes practice.

The articles in this compilation were written from 1935 through the mid-1980s. For the most part, the original text has been retained but some formatting has been changed to ease readability. References to gender have not been altered or edited to reflect a more current sensibility toward, for instance, using "man" rather than "human" or "he" as applying to both genders. Most of the authors died long ago, and references to their contemporaries who are now dead have not been amended. Certain words and terms may seem awkward, and perhaps even 'offensive' to 21st-century sensitivities.

These editorial decisions may prove challenging to some readers. I hope you'll accept the challenge to consider this as a type of experiment. Can you read something from the perspective of the time in which it was written, applying, say, 1950 standards instead of current ones? Can you resist the temptation to quickly dismiss 'dated' notions and explanations; instead, can you maintain an attitude of open-mindedness: "What is here for me to learn? How can I relate this to my own experiences?"

If you find yourself tempted to disapprovingly judge a phrase, a term, or attitude because you_{2004} "know better," perhaps you might keep in mind the caution of Cassius J. Keyser:

The present is no more exempt from the sneer of the future than the past has been. (2)

'A Word' about Allen Walker Read

Within this issue dedicated to time-binders *across the curriculum*, we pay special tribute to Allen Walker Read. Allen died in October 2002 at age 96, three months after his wife of 49 years, Charlotte Schuchardt Read, died at age 92. Charlotte's professional life concentrated on general semantics (she began her work as Korzybski's literary secretary in 1939) and also included work with Charlotte Selver in sensory awareness.

Allen's professional work, however, did not pertain directly to general semantics, *per se*. A professor of English at Columbia University from 1945 to 1974, his professional achievements were more widely recognized within the disciplines of linguistics, lexicography, and etymology. While he wrote about two dozen papers specifically for GS audiences, he wrote over two hundred papers that documented his investigations in these more specialized academic areas.

The notion for this tribute to Allen came last April. I received a copy of *GEOLINGUISTICS*, annual journal of the American Society of Geolinguistics, compliments of editor Wayne H. Finke. (3) The issue featured a memoriam about Allen written by Professor Jesse Levitt, as well as a previously unpublished speech Allen presented in 1970, "The Geolinguistics of Verbal Taboo," edited by Professor Levitt.

I sought permission from Professor Finke to reprint both articles in *ETC*. He graciously approved the request. I then contacted Professor Richard W. Bailey at the University of Michigan, editor of *Milestones in the History of American English*, a collection of Allen's papers published by Duke University Press in 2002. (4) Professor Bailey agreed to edit his introduction to *Milestones*, originally written before Allen died.

From the two dozen articles that have been published in *ETC* and the *General Semantics Bulletin*, I selected two for this special tribute. (A listing of his articles in these publications appears on page 463.)

These five selections by, and about, Allen Walker Read reflect his passionate dedication to his work. This passion manifested itself through a necessarily dispassionate, "matter-of-fact," and scientific methodology. He observed that unique dimension of human behavior we call "language" and investigated that behavior through painstaking and meticulous research. He theorized his findings, then sought additional evidence to confirm or disprove those findings, never satisfied with any finding as "final." He did so with such an evident joy, humility and lack of pretension that a featured profile of him for the *New Yorker* magazine was titled, "At Play in the Language." Michelle Stacey's profile includes an accounting of Read's arguably most notable achievement, formulat-

ing the definitive (so far) explanation of how that distinctively American term, "O.K." originated. (5)

Allen and Charlotte each served as role models of what Korzybski called the "extensional orientation." As Susan Presby Kodish noted in last year's *General Semantics Bulletin*, "Were Abraham Maslow still alive, I'd nominate them for inclusion in his pantheon of self-actualized, fully-human individuals." (6)

I thank Professors Finke, Levitt, and Bailey for their cooperation and contributions to these pages. I also wish to recognize and thank William Safire of the *New York Times* for his *homage* that prefaces this well-deserved and overdue tribute to Allen Walker Read.

About the Cover Photo

The cover photo documents the staff and participants who attended the IGS summer seminar-workshop at Bard College, NY, August 13-28, 1955.

This photo supports the overall theme of "General Semantics Across the Curriculum" in that a) the setting is a college campus, complete with walls of ivy; and b) some noteworthy individuals participated in this seminar.

- Buckminster Fuller (first standing row, second from right), author and inventor, lectured during the second-week workshop.
- Abraham Maslow (second standing row, center, with mustache), psychologist, author, also presented as a guest lecturer.
- Dr. Russell Meyers (first standing row, fourth from left with tie), Chief of Neuro-Surgery at the University of Iowa, former President of the International Society for General Semantics, presented as a guest lecturer.
- Ray Bontrager (first standing row, third from right), Professor of Education and Psychology at California (PA) State College, Fellow of the Institute of General Semantics, and principal lecturer for the seminar.
- Dr. Marjorie A. Swanson (first standing row, far right), Professor of Bio-chemistry at Bowman Gray Medical School (now Wake Forest University, North Carolina), lecturer for the seminar.
- M. Kendig (first standing row, center), Director of the Institute.
- Charlotte Schuchardt Read (first standing row, third from right), Trustee of the Institute and seminar lecturer.

- Allen Walker Read (not pictured), presented as a guest lecturer.
- Harry Maynard (fourth row standing, far right, dark shirt), *Time Magazine* executive, later to serve on the Boards of both the Institute and International Society for General Semantics.
- Robert K. Straus (fourth row standing, immediately behind Maslow), served on the Board of the Institute and presented as guest lecturer.
- Catherine Minteer (not pictured), studied at Northwestern University under Irving J. Lee, taught secondary school English, authored two books for students, *Understanding in a World of Words* and *WORDS and What They Do to You*.

NOTES

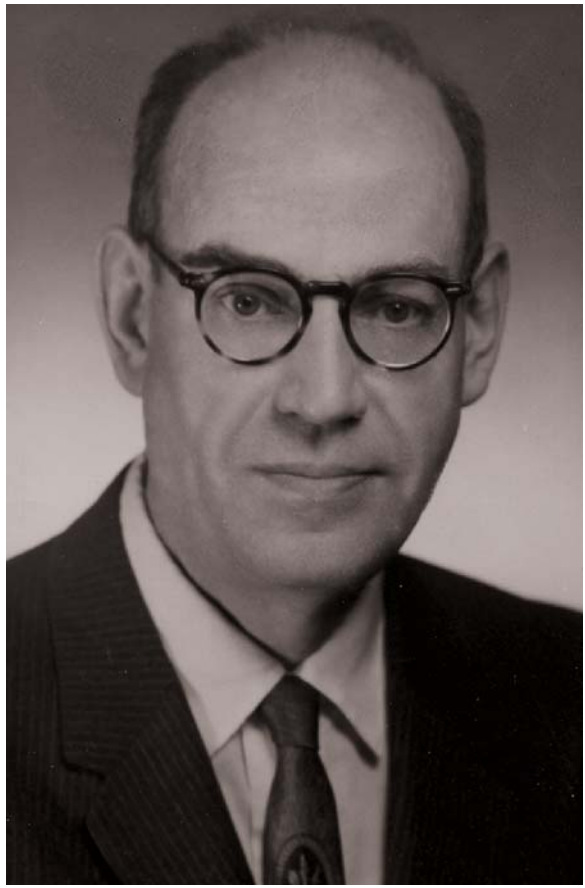
1. Text of script for the Swift Boat Veterans for Truth "Medals" television advertisement: http://swiftvets.com/medalsscript.html.
2. As quoted by Elton S. Carter, recorded comments at the 1973 Alfred Korzybski Memorial Lecture, New York. Institute of General Semantics archives.
3. *GEOLINGUISTICS* 29, 2003. Edited by Wayne H. Finke and Leonard R.N. Ashley. Published by Cummings & Hathaway for The American Society for Geolinguistics. Email: wayne_finke@baruch.cuny.edu.
4. Allen Walker Read, *Milestones in the History of English in America*, 2002. Edited by Richard W. Bailey. Published by Duke University Press for the American Dialect Society.
5. Michelle Stacey, "At Play in the Language," *The New Yorker*, Vol. 65, No. 29. September 4, 1989.
6. Susan Presby Kodish, Ph.D., "Wisdom, Wit and Warmth on the Upper West Side: Memories of Charlotte Schuchardt Read, Ann Dix Meiers, and Allen Walker Read," *General Semantics Bulletin* No. 69-70. 2002-2003.
7. Please visit the online library on the Institute's website for complete versions of the abbreviated articles in this issue, as well as other special features: www.time-binding.org.

Tribute to Allen Walker Read

Allen Walker Read was an inspiration to language lovers everywhere — from pop grammarians to heavy-hitting linguists and etymologists. We can look at his long lifetime of work and say —"that was more than *O.K.*"

– WILLIAM SAFIRE

Allen Walker Read



(Allen's handwriting, from the bound travel diary that documented Allen and Charlotte's six-week trip to Europe in 1954.)

*ALLEN WALKER READ, AMERICAN SCHOLAR**

RICHARD W. BAILEY

SERENDIPITY, as Horace Walpole explained in 1754, is the happy capacity people have "of making discoveries, by accidents and sagacity, of things they were not in quest of." Serendipity was the hallmark of Allen Walker Read's career as a scholar. Long before the fashion for the "anthropology of everyday life," he was seeking out cultural history in the most obvious places — ones that others overlooked because the evidence was in plain view. Historians had read colonial American newspapers for the great events of the day; Read noticed the advertisements for runaways and discerned something about early life in America. Those who used roadside "conveniences" in the 1920s were embarrassed or amused by the notes penciled on the walls. While official America was painting over these graffiti, Read was recording them in his notebook for later interpretation. Classical scholarship still held the rapt admiration of the scholarly public in Read's youth, but it took the imagination to be curious and a willingness to be patronized to take on, as he did, the grammar of Pig Latin.

* This tribute to Allen Walker Read, updated by Professor Bailey, is an excerpt from his Introduction to *Milestones in the History of English in America*, a collection of Read's papers published by Duke University Press for the American Dialect Society, 2002.

Having the sagacity to see the exotic in the familiar is one part of serendipity; the other is to seek out places where accidental discoveries may occur. For Read, these places were most often libraries and archives, and he drew forth from them the most unexpected evidence for the history of American life. He sat down to read an 1838 reprint of an English book published in 1628 and discovered that, within a decade of the settlements at Massachusetts Bay, Native Americans were using "broken English" to communicate with one another across the linguistic differences that divided them. By collecting things that might be of interest later and preserving and organizing them, Read gathered his own archive, enabling him, as a mature scholar, to produce essay after essay abundantly, and often amusingly, filled with examples and illustrations.

Read achieved well-merited celebrity for his scholarship not only in the sort of recognition awarded by specialist groups like the American Dialect Society, but also the larger fame that comes from being profiled in the *New Yorker* (Michelle Stacey, September 4, 1989, "At Play in the Language"). Such recognition was particularly gratifying to a transplanted Midwesterner, born in 1906, living in the rarefied intellectual village on the Upper West Side of Manhattan, where the yen for Europe is far more strongly felt than nostalgia for the American backwoods. Read sided with them both — he was a backwoodsman in the country of sophisticates.

Read made a lifetime of study of Americans and their talk. He took to heart Emerson's injunction that "we have listened too long to the courtly muses of Europe" (1), and it is noteworthy that among his many publications are essays devoted to the language of Washington Irving, Walt Whitman, and Carl Sandburg. But Emerson's American Scholar was not a bookworm. "Life is our dictionary," Emerson declared; "colleges and books only copy the language which the field and the work-yard made." (2) Like Wordsworth, Emerson believed that the vitality of the language lay in the usage of ordinary people. Echoing the same theme, Brander Matthews declared, "The grammarian, the purist, and pernickety stickler for trifles, is the deadly foe of good English, rich in idioms and racy of the soil." (3) Neither Emerson nor Matthews was quite prepared for just how racy the speech of the "soil" might be.

In the 1920s, Read began to be curious about the origin of the word *fuck*. Some of his writings on this subject are gathered in *Milestones in the History of English in America*. Readers will note that in print he never employed the word itself but rather such indirect locutions as "the colloquial verb and noun, universally known by speakers of English, designating the sex act." (4) Noting that the word had been entered in dictionaries until the end of the eighteenth century (though not in Johnson's), he was severe in his judgment of the editors of the *OED*.

> It is to the everlasting shame of Murray and Bradley that their linguistic sense was not strong enough so that they could dissociate themselves from the warped outlook of their age. (5)

Science was part of Read's upbringing. His parents had both received bachelor's degrees from Hillsdale College in Michigan, and his father was the sole faculty member in the sciences in a series of small-town Midwestern colleges (while continuing his education along the way with an M.S. from the University of Wisconsin and further graduate study at the University of Illinois). These appointments included Parker College (Winnebago, Minnesota), Central College (Pella, Iowa), and Iowa State Teachers College (Cedar Falls). Read's sister Mary Jo Read, five years his junior, graduated as her brother had done at Iowa State and went on to an M.S. at the University of Chicago and a Ph.D. from the University of Wisconsin. For the Read family, science was central to life.

When American linguists — following the intellectual example of William Dwight Whitney — talked of language study as a science, Read was prepared from his childhood to embrace that notion. Speaking at Georgetown University in 1961, he put his convictions in these words:

> Other people may prefer to accept their goals from the maxims handed down in their culture or from the assumptions of the religion they have espoused. While linguistics itself does not offer criteria for ethical judgment, its clarifications are so freeing, the enlightenment it yields is so stimulating, that one's sense of mission has ample scope for the dedication of a lifetime.

Read's "mission" has been to let the facts speak for themselves. But he has compelled them to tell a tale, one of the sweep of American history as pioneers inscribed names on the land and filled the wilderness with voices. These voices, for him, have authority — notwithstanding the sneers of English visitors or the arrogance of self-appointed advocates of a linguistic elite. Graffiti in the New York subway or scrawls in public toilets speak with as much authority as the oratory of politicians or the solemn utterances of heroic figures. The facts are egalitarian; they are everywhere; they are nearly always filled with the spirit of fun.

Read's craving for perfection was difficult to satisfy, and it would have been all too easy for him to descend into eccentricity and solitude in post-World War II lower Manhattan. Fortunately for him, he had met Charlotte Schuchardt in 1939 when he encountered her working at the Institute of General

Semantics, an enterprise of the emigre Count Alfred Korzybski, on the fringes of the University of Chicago campus. Fourteen years would elapse before he felt sufficiently confident in his abilities to provide for her. Achieving tenure at Columbia, Read could transport his archives uptown and marry. Like her husband, Charlotte was a Midwesterner with a sense of mission built around language. They sustained each other until their near-coincident deaths — Charlotte on July 25, 2002, Allen eighty-three days later.

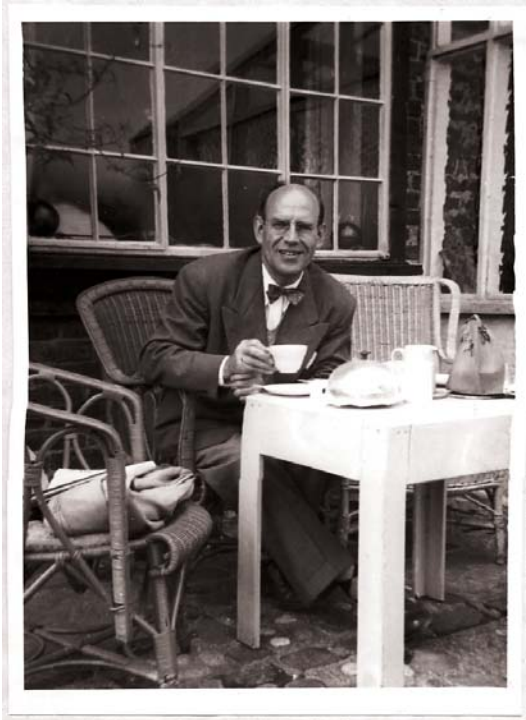
Read's interest in American names is the subject of a separate volume, *America: Naming the Country and Its People* (6), edited by Leonard R. N. Ashley, and I direct attention to the introduction to that volume for particulars on Read's contribution to onomastics. Others in this issue of *ETC* describe his devoted service to the General Semantics movement, a viewpoint that engaged his attention and energy beginning in the 1930s. Understanding language helps identify "semantic blockages" that prevent people from saying what they would wish, or that compel them to say things that they do not wish to say. Liberating people from the prejudices of their language was a constant in his "sense of mission." He was eloquent, too, about "linguistic imperialism" and the self-centeredness of "ethnicity." He made these views public wherever he could reach an audience — whether through television or dictionaries or encyclopedias or popular magazines or uncounted miles of travel to talk about his life's work.

Of course, Read might have done more, and he was disappointed that he never brought his proposed *Dictionaries of Briticisms* to completion. Someone so infused with the work ethic and so dedicated to the ideal of perfection will always come short of his dreams. His accomplishments are worthy of celebrity.

Allen Walker Read devoted his life to the work of the American Scholar.

REFERENCES

1. Read, Allen Walker. 1971. Unpublished manuscript, p.69.
2. Read, Allen Walker. 1971. Unpublished manuscript, pp.60-61.
3. Matthews, Brander. 1892. *Americanisms and Briticisms, with Other Essays on Other Isms*, p.29. New York: Harper.
4. Read, Allen Walker. 2002. *Milestones in the History of English in America*, page 256. Edited by Richard W. Bailey. Published by Duke University Press for the American Dialect Society.
5. Read, Allen Walker. 2002. *Milestones in the History of English in America*, p.263. Edited by Richard W. Bailey. Published by Duke University Press for the American Dialect Society.
6. Read, Allen Walker. 2001. *America: Naming the Country and Its People*. Edited by Leonard R.N. Ashley. Lewiston, NY: Mellen.



IN MEMORIAM: ALLEN WALKER READ (1906-2002)

JESSE LEVITT

OUR SOCIETY [The American Society of Geolinguistics] has been profoundly saddened by the death of Allen Walker Read on October 16, 2002.

Dr. Read was considered the foremost living authority on American English. He was a member of our Society for more than thirty years, during which he served first as a member of our Board of Directors and later as President. His lecture "What is Linguistic Imperialism?" which he gave in October 1968, appeared as an article in the first issue of our journal in 1974. He was a frequent speaker at our meetings. In January 1970 his topic was "The Geolinguistics of Verbal Taboo." In May 1974 he spoke on "A Planetary Perspective on the Migration of Words." In October 1978 he dealt with "The Evocative Power of National Names." His lecture in December 1978 was on "The Scope of Geolinguistics." In other talks he dealt with "The Cliché and Platitude in Language Economy" (November 1979), "The Westward Sweep of the American Vocabulary" (March 1981), "Milestones in the Branching of British and American Vocabulary" (January 1983), and "The Allegiance to Dictionaries in American Linguistic Attitudes" (December 1984).

* Jesse Levitt is Editor emeritus of *Geolinguistics*, the journal of the American Society of Geolinguistics. Reprinted with permission from *Geolinguistics*.

Regrettably, many of his lectures did not appear in our journal. Dr. Read was a perfectionist, and his many activities in other linguistics organizations probably prevented him from offering final texts for some of his lectures. Before Dr. Read's death, Leonard R.N. Ashley edited Read's unpublished onomastic papers (published by Mellen Press) and Richard Bailey edited Read's previously published papers on other aspects of the American language (published by Duke University Press). Dr. Read's geolinguistic papers have not been collected. However, his article "The Contribution of Sociolinguistics to the Peace-Keeping Process" appeared in our 1982 journal. Our 1984 journal carries the article "The Impact of 'Ethnicity' on Attitudes toward the English Language." At our twentieth anniversary conference in 1985, Dr. Read spoke on "The Embattled Dominance of English in the United States." He spoke again at our 1992 conference on "Problems of Speakers of English in the Naming of Foreign Countries." His lectures and articles were invariably models of scholarly integrity and at the same time remained perfectly clear to non-specialists, avoiding the technical obfuscation typical of many specialists in linguistics. In the nineties he was the genial host of the Society at meetings held at Columbia University. Unobtrusively, he was a generous financial backer of our Society.

Through the years he attended virtually every one of our annual luncheons. The last at which he appeared was on June 2, 2001, his ninety-fifth birthday. Until 1999 he sent out Christmas and new year's greetings to members of our Society and other friends listing innumerable trips with his wife Charlotte (a specialist in Korzybski's general semantics) to linguistics and onomastics conferences at various location in the United States, Canada, and Great Britain.

Dr. Read was a member of many learned societies. At various times he served as President of the American Dialect Society, the American Name Society, the International Linguistic Association, the Semiotic Society of America, and the Dictionary Society of North America. He was awarded the degree of Doctor of Letters by Oxford University on January 23, 1988. That same year the North Central Name Society published an *Allen Walker Read Festschrift*. In his introduction to this *Festschrift*, Lawrence Urdang comments as follows:

> He was — and remains to this day — indefatigable. There is scarcely an area of the entire spectrum of language that his papers have not touched on, and he seems to be possessed of an inexhaustible energy that takes him to major and minor conferences throughout the world, from international symposia in London to the most obscure regional names society get-togethers in the hinterlands of America. (*Geolinguistics*, 1988. p.viii.)

Allen Walker Read was born in Winnebago, Minnesota on June 2, 1906. His father taught all the sciences at Iowa State Teachers College, now the University of Northern Iowa, in Cedar Falls. Encouraged by his father, he decided on an academic career. He graduated from his father's college at the age of nineteen. The next year he earned a master's degree from the University of Iowa, with a thesis on some Iowa place names.

In a lengthy article entitled "First Person Singular II: A Personal Journey Through Linguistics," published in 1991 by John Benjamins as volume 61 in the series *Studies in the History of the Language Sciences* (a copy of which Dr. Read sent me with the inscription "To Jesse Levitt, with all good wishes — Allen") Dr. Read recounts the main events of his professional life and his views of linguistic science. He writes:

> One of the idols of my teen years was H.L. Mencken, and while I was an undergraduate at a small college in Iowa, my bedside reading in 1925 was his volume *The American Language*. It led me to take my major in English language when I went to the University of Iowa for an M.A.

His formal study in linguistics began in 1927 when he took a summer course at the University of Chicago called "Comparative Philology." His first academic position, in 1926 at the University of Missouri, Columbia, at the age of twenty, was teaching freshman English. He joined the Linguistic Society of America in 1926 and attended its first annual meeting in Cincinnati in 1927. From 1928 to 1932 he was a Rhodes Scholar at Oxford University. There he specialized in lexicography.

In 1932 he went to the University of Chicago to join the editorial staff of the *Dictionary of American English*. There he was converted to physicalism, which he regarded as a scientific revolution.

> In place of a physical realm plus a mental realm, a single unified realm was postulated, and the so-called mental realm was explained as the working of the abstracting process, developing out of and on the physicalist base.

He found it very "saddening" that Noam Chomsky, reverting to his old dualism, went back to "untenable scientific foundations." He cites, with disapproval, this statement by Chomsky: "It becomes necessary ... to postulate a second substance whose essence is thought alongside of body, with its essential proper ties of extension and motion."

Dr. Read again criticizes Chomsky's approach to linguistics in an article entitled "The Contribution of Sociolinguistics to the Peace-Keeping Process."

He quotes Chomsky as having written in 1965: "Linguistic theory is concerned primarily with an ideal speaker-listener in a completely homogenous speech community who knows the language perfectly." Read comments:

> When do you have an 'ideal' listener-speaker? When is any speech community completely homogenous? What person in the wide world knows even his own language 'perfectly'? To escape those deadening restrictions, many of us, as Chomsky's authority became more overbearing, moved over to the field that allowed us to deal with language, as found on the tongues of real people. [i.e. sociolinguistics]

Dr. Read then refers, with approval, to Mario Pei's formulations of the methods of geolinguistics in 1965 in his *Invitation to Linguistics*:

> The American Society of Geolinguistics got under way in the same year and continues now with an annual journal, deserving more support that it has received. The findings of sociolinguistics, supported by geolinguistics, have great relevance to the pursuit of sanity and peace in the world. (*Geolinguistics*, 8, 1982, 3-4)

Dr. Read showed his preference for structuralism when he stressed the importance of Bloomfield, who brought into linguistics the physicalist paradigm "that makes scientific rigor possible." ("First Person...," p.279) Among other linguists who influenced him, he lists Kenneth Pike, Henry Lee Smith, Bernard Bloch, Charles Hockett, Eugene Nida, Robert A. Hall, Allan Gleason, Dwight Bollinger, Uriel Weinreich, and Alfred Korzybski. He declared his "first allegiance" was to the American Dialect Society and the Present Day English section of the Modern Language Association.

In 1938 he received a Guggenheim fellowship to work on a lexicographical project of his own. He was scheduled to read a paper in October 1939 before the British Philological Society on "Briticisms." The paper was never presented because of the outbreak of war. But Dr. Read later learned that his topic outraged some members of the Philological Society "who vowed that an upstart American should never be permitted to speak on such a ridiculous subject." ("First Person...," p.281)

Dr. Read, however, in later years undertook to write a comprehensive dictionary of Briticisms, and in time turned over his materials to John Algeo. A London *Times* article on June 25, 1988, commenting on the project, says:

> "The British may not like the idea, but for the majority of those who use English, we speak a rather quaint dialect." For Dr. Read, that was "turning the tables on the English." (Geolinguistics, 14, 1988, p.vii)

In a short story entitled "Rhodes Scholar," published in *The Best Short Stories of 1931,* edited by Edward O'Brien (Dood, Mead and Co., New York, 1931), Dr. Read presents an American freshman from Iowa at Oxford University. He names him Ross. Ross, who is obviously Dr. Read himself, meditates on his Iowa heritage and wonders how he will answer the roll call of the freshman class. Should he try to 'fit in' and answer "*heah*" like his British fellow students, or should he pronounce the final "*r*" of "*here*" as is done in Mid-Western American English? The story ends without an answer, as Ross "rumbled his throat in a preliminary way."

For Dr. Read, an important element of language is the "play spirit." In this area he has produced "a cycle of studies ... dealing with adult baby talk, pig Latin, mock Latin, double talk, intentional mispronunciation, the sportive naming of non-existent objects (beguilers) and the like." In a 1941 paper he dealt with the spelling bee, showing how "the intractable problem of English spelling, with its social pressure toward uniformitarianism" was turned into a game. The spelling bees started in Elizabethan England. In New England about 1800 they became evening entertainment; later they moved westward. The confederate "rebel yell" was another part of the play spirit. But the play spirit in war was destroyed by the Nazis ("First Person...," pp.285-286).

The well known Americanism "O.K." was motivated by the play spirit. In Boston in the late 1830's a craze for abbreviations developed, sometimes based on incorrect spellings. Thus "all correct" became "oll korrect," and it was abbreviated as "O.K." The earliest known written use of "O.K." was in the Boston *Morning Post* of March 23, 1839. Discovering that, Dr. Read's research demolished much contemporary speculation.

Examining the different words used in the nineteenth and twentieth centuries for an inhabitant of Connecticut, Dr. Read cites Connecticotian, Connecticutensian, Connecticutter, Connecticutan, Connecticutian and (for a pretty woman) Connecticutie. "In its most generalized form," Dr. Read has written, "the play spirit is the exuberance characteristic of all healthy human beings. This exuberance may well have been the prime mover of language itself. It is possible for us as linguists to pursue our studies in this same exuberant spirit, as I have found in my personal journey over many decades" ("First Person..., pp.286-287).

Among Dr. Read's many interests were graffiti, which he collected from public rest rooms during a 1927 trip to the western states. His findings were

privately printed in 1935 as *Lexical Evidence of Epigraphy in Western North America: a Glossorial Study of the Low Element in the English Vocabulary*. In this book he declared that any case of someone who "should pass up the well established colloquial words of the language and have recourse to the Latin 'urinate,' and 'have sexual intercourse' is indicative of grave mental [ill] health" (Read Obituary, *New York Times*, October 18, 2002, Metropolitan Section, p.9). In 1935 the book was considered unacceptable for publication in the United States. So it was printed in Paris in only 75 copies, issued privately to scholars. In 1977 the book appeared in the United states as *Classical American Graffiti,* reprinted by Dr. Reinhold Aman.

Dr. Read traced the origin of the term "blizzard" with the meaning of a snowstorm. He also traced the origins of Dixie and Podunk.

During the Second World War, in 1942, he was drafted and assigned to a lexicography group on the lower tip of Manhattan in New York City. The group collected citations for a dictionary of military terms. In 1943 he was assigned to the language section of the War Department at 165 Broadway, New York City. The group created language guides for over forty languages, although some translators were contemptuous of systematic linguistics. Dr. Read never discovered what eventually happened to the group's materials ("First Person...," pp.280-281).

From 1945 to 1974 Dr. Read was a professor of English at Columbia University and continued his work in numerous language and linguistic societies. He pursued his research, giving lectures and writing research papers well into the nineties, long past his retirement. He married Charlotte Schuchardt [Korzybski's literary executrix] in 1953. The marriage was childless and Dr. Read appears to have no survivors. His wife predeceased him in July 2002.

We mourn the passing of Allen Walker Read. He was a pillar of strength for our Society for over thirty years. He will be sorely missed.

THE GEOLINGUISTICS OF VERBAL TABOO

ALLEN WALKER READ

THE WORD *geolinguistics* may not be very familiar to a number of you in this audience and perhaps I should preface my remarks with a few words about this field. The initial exposition is to be found in Professor Mario Pei's book, *Invitation to Linguistics,* published in 1965. He introduced a tri-partite division into descriptive linguistics dealing with the synchronic analysis, and geolinguistics dealing with the relation of language to its speakers as they are spread over the world.

It has occurred to me, perhaps somewhat whimsically, that we might even have a pun here, that *geolinguistics* is *down-to-earth linguistics*. At least this is a fostering of certain concrete aspects of the field in contrast to the abstract and logicized approaches that are now very much in vogue. A full geolinguistics treatment of verbal taboo would involve an anthropological survey of its degree of prevalence in languages all over the world. It is part of our own culture's folklore that the observance of taboo represents refinement and cultivation but I suspect that the full survey would lead us to the opposite conclusion.

Verbal taboos are at work in several fields. The breaking of taboos relating to deity creates blasphemy and the breaking of taboos relating to death creates irreverence. Literally hundreds of euphemisms for death may be found. The late Professor Louise Pound collected them in a study of 1936 ranging from the high-flown literary to the flippant and vulgar. She recorded the legend about the rattled clergyman who said, pointing to the corpse, "*This is only the shell, the nut is gone*."

The breaking of taboos relating to sex creates obscenity. If those taboos do not exist for you, then obscenity does not exist for you. The taboo is implanted in childhood experiences and it becomes deeply ingrained. I wrote about this back in 1934 in an article published in *American Speech,* and entitled "An Obscenity Symbol." In preparation for this speech this afternoon, I was rereading my article and it seemed to me that I could not express better what I think is at the heart of the verbal taboo than to quote a paragraph or two I wrote in that year, so I think I will read that from my own writing of 35 years ago.

> Our feeling of the fearful thrill is the result of experiences during the impressionable age. The hushed awe that surrounds these words, the refusal of information concerning them, or the punishment meted out for an inadvertent use of them. There develops a neurosis so ingrained that the will is well-nigh powerless against it. Even when we come to know that there is not a proper basis for the feeling, we are prompted by motivations so deeply planted that we have the reactions in spite of our intellect.
>
> The psychological motivation for taboo lies deep and probably has its root in the fear of the mysterious power of the sex impulse. Primitive man found that the force of passion could so disorder life that he hedged it about with interdicts and prohibitions. Because of these, sexual fetishes or symbols developed. For most people the bare word forms of these four-letter words have become sexual fetishes. The fact that only certain words are so regarded is attributable to the patterning tendency in man. If certain objects are arbitrarily designated as scapegoats then the remainders may be approached without fear.
>
> That is why I have said that the four-letter words are not sub-standard even through they may rarely or never by externalized. They perform a function for speakers of Standard English by serving as scapegoats ministering to the deep-rooted need for symbols of the forbidden. They analyze a certain emotion and thus leave the remainder of the language free from it.

For the main part [of this paper] … I will draw upon material that contrasts the usage of a set of stigmatized words in England and in America. This is specifically the *geolinguistic* aspect ... the study of regional differences in the feature of language. But in addition to the geographic differences, there are also differences in the time dimension: each era has its set of attitudes. We commonly speak of Victorian attitudes but I think that the height of the taboos were a little earlier than that. Eric Partridge believes that the height was in the 1830s and my own studies seem to bear this out. Queen Victoria did not ascend the throne until 1837.

We recall that before that, in 1834, Noah Webster had to cope with which words to include in an American dictionary and which to omit.

- He did not allow *teat* but substituted *breast.*
- He did not allow *womb* to appear in the text.
- *Stink* was cut out and he substituted *ill smell* and several other synonyms.
- *To give suck* was not allowed but *to nourish* was substituted.
- *Dung* had to go and *excrement* was used in its place.
- *Fornication* was not allowed, even the Latin derivative, but *lewdness* in that case was substituted.

Americans, I think, were sufficiently sophisticated that they realized things were going too far, so you do find satire on this tendency. In an American newspaper of 1840, I found the following passage, which seemed to indicate that even *oxtail* was considered indecent. This was the story of a man who mentioned oxtail soup and it caused the ladies at the table to flee from the room blushing. The diner apologized by saying,

> "I am, however, sorry that it has given offense but I really do not know how I could have avoided it."
>
> "Then sir, I advise you when you have an occasion another time to speak of that particular soup do not call it *oxtail*."
>
> "No?"
>
> "No."
>
> "But what shall I call it?"
>
> "*Fly disperser*."
>
> "I shall remember that, *fly disperser* soup, you may rest assured."

That cannot be believed, of course, but the satire of it shows the attitudes of the time.

We do find some people having the other attitude, however. Walt Whitman perhaps is the leader of that other school that had what I would think we would call a more wholesome attitude. Even in 1855, in the *American Primer,* he wrote as follows:

> "The blank left by words wanted but unsupplied has sometimes an unnameably putrid cadaverous meaning. It talks louder than tongues. What a stinging taste is left in that literature and conversation where have not yet been served up by resistless consent, words to be freely used in rooms, at table and anywhere to specifically mean the act male and female."

It took a long time to catch up with Whitman.

Some of the avoidances of the 1800s were really remarkable. It was taboo to say *pants* or even *trousers,* and the substitutes developed like *inexpressables* and *unmentionables.* This was one of the interests of Richard Thornton in his *American Glossary.* He has a whole page of such quotation that he collected from the nineteenth century. For instance:

- in 1824, from an Albany newspaper, "we thought about those *inexpressables* principally worn by our wives having been repaired."
- in 1833, from the *American Monthly* magazine, "my *unmentionables* were somewhat endamaged."
- from the *Knickerbocker Magazine* of 1837, "how could he see about procuring himself a pair of *unwhisperables*?"
- in 1848 from *Bacon's Waggeries,* "Mr. B. dressed himself in a new bright blue coat and a pair of large and showy *unwhisperables.*"

In reading the letters of a soldier in the Union Army in 1864, I came across this sentence even in the writing of a soldier: "I concluded to peep into an outbuilding and who should I see but Mr. Johnny, just getting into his *don't speak of 'ems*."

The taboo on the word *leg* was well established in New England in the eighteenth century. The earliest reference to that I found is in the year 1781 in Samuel Peters' *General History of Connecticut,* in which he said, "it would be accounted the greatest rudeness for a gentleman to speak before a lady of a *garter* or a *leg*."

The British travelers felt that there was a great deal of overwrought delicacy in American speech. Isaac Gindler, who came to this country in 1824, reported as follows: "what Englishman for example would have an idea there being any impropriety in remarking of a lady that she has a well-shaped ankle, yet this would be too gross for American ears, while to say that she has a handsome *leg* would be intolerable."

The most outstanding story about *leg* was recorded by the British traveler Captain Frederick Marryat in 1839. He was traveling at Niagara Falls and reported this incident.

> I was escorting a young lady with whom I was on friendly terms. She had been standing on a piece of rock the better to view the scene when she slipped skin. As she limped a little in walking home, I said, "'Did you hurt your leg much?"
>
> She turned from me evidently much shocked or much offended and not being aware that I had committed any heinous offense I begged to know what was the reason for her displeasure.
>
> After some hesitation, she said as she knew me well she would tell me that the word *leg* was never mentioned before ladies.
>
> I apologized for my want of refinement which was attributable to my having been accustomed only to English society and added that as such articles must occasionally be referred to even in the most polite circles in America, perhaps she would inform me by what name I might mention them without shocking the company.
>
> Her reply was, that the word *limb* was used. "Nay," continued she, "I am not so particular as some people are for I know those who would always say *limb* of a table or *limb* of a pianoforte."

There were some remarkable substitutes developed for the word *leg*. Longfellow, in a novel in 1849, mentioned that a private school had among its rules "Young ladies are not allowed to cross their *benders* in school." A traveler reported that you could not speak at the dinner table in a public restaurant of a *leg* of a chicken, you had to say the *first or second joint*. And the word *wires* had some currency apparently in the south. W.C. Bennett, in his little pamphlet *Americanisms* published in 1880, says of South Carolina, that "a Yankee governess employed some years ago by a family in this county told her pupils not to say *legs*, it was a vulgar to say *legs*, to call them *wires*."

Sometimes you find sentences in English writing that would probably be edited out of any American printed book. I found such in one of the novels of Angela Thirkell. It was a description of a merry-go-around, which had an effigy of a rooster on it and this was the statement that appeared in her novel:

> Mr. Grant offered his cock to Lydia who immediately flung a leg over it, explaining that she had a put on a frock with pleats on purpose as she always felt sick if she rode sideways.

That would not appear in an American novel.

The American ambassador to Brussels, who was passing through England in 1934, mentioned this: "you may not in English society use the word *stomach*, it isn't done, you must say *tummy.*" Mary Ellen Chase noted the same thing in 1936 in her travel book, *This England:*

> One does not utter carelessly and simply, as one does at home, the word *stomach* in England. It is, and in fact all words pertaining to the digestive functions are, ruled out by English manners. Once in ignorance, I used the forbidden word openly at tea party whereat the atmosphere fell to such a degree that on the following day an explanation and apology were tendered to my hostess by the embarrassed friend whom I was visiting.

One of the most outstanding examples of projected taboo from England is *bum*, which has very little taboo in America. We can say, "*I've had a bum day*," a sort of thing that may be on a low level of English but not taboo. But the English association is with *bottom* and is much more under a taboo. This reaction is shown in the report of the premier of New Zealand who came to this country in 1909. He had not been Premier yet but he later was elected to that position and he reported what he had heard in America. He was more English than the English in this regard:

> There is one other word of three letters, whose initial letters is as close as it could be to the beginning of the alphabet without actually being the first [That's as close as he can come to it.] which to my disgust is much used in America. Amongst English people it is considered a most vulgar noun, used to describe a portion of the human anatomy, more useful than elegant and never in polite society inferentially referred to as I am now doing. In American it is quite a popular adjective much employed by comic actors and evidently greatly appreciated by the public as it is frequently used in the press. To me, it was most offensive to hear this word used in the presence of ladies and children.

There are various other comments on this term. Alfred Lyle in 1930 mentioned this same one. Certain words considered outside the pale in England may be freely used on this side of the Atlantic. When American soldiers went to England during the last war, they received a little pamphlet to stick in their pockets. It was called *A Short Guide to Great Britain* and it mentioned this very thing. "To say 'I look like a bum' is offensive in their ears, for to the British this means that you look like your own backside. It isn't important, just a tip if you are trying to shine in polite society. This has led to the coinage of a word like

bumfreezer, for a short jacket, what we know as the Eisenhower jacket. And *bumpf* for red tape, which is one of the slang names for toilet paper."

The English *fanny* refers to the female sexual organ and not the buttocks, as it does here. It has been hard for me to find quotations for this, because in all printed sources you find difficulty in getting material of this sort. But in 1934, for instance, Norman Hare, an English psychiatrist, mentioned that in English the penis is often referred to familiarly as *John Thomas* and the vulva as *Fanny,* or *Pussy.* When in an American novel we find "he gave her a slap on the Fanny" the English think that that's a very strange thing to happen.

Perhaps the most outstanding example of geolinguistic differentiation of a word is found in the word *bloody.* For generations Americans have found a mystery in the British use of this word. How early did this slang meaning develop in England? If you look it up in the *OED* you will find that earliest is 1676. But Ernest Weakly in his reading for the *Etymological Dictionary* was successful in finding one as early as 1606. He was reading a play by the dramatist John Marston and in *The Fawn* he came across this speech, attributed to a nymphdoro, a young courtier: "These mischiefs of society, intelligences or informers will cast rumor into the teeth of *lillious baldus* , a man cruelly eloquent and bloodily learned." Their "bloodily learned" in the adverbial form seems to be at least a forerunner of the slang meaning that has been current in England so long.

You may be interested in the earliest comment by an American that takes note of the word *bloody.* The earliest I've been able to find is from the year 1828, in the writing of John Neal. He had been spending several years in England and wrote about American literature for some English magazines. He came back to this country and founded a weekly of his own in Portland, Maine, called the *Yankee.* He took up some linguistic differences between British and American English and this was his treatment of the area.

> The English women are not very fastidious neither, they do not call a child a *babe,* nor eating *taking be,* nor would they imagine that it was more delicate that a neighbor had a *son* or *daughter* than that he had a boy or girl. And if they do not talk as freely about *purges* and *physics,* as a Frenchwoman, or with so many ridiculous roundabouts of speech as a woman of our country, it is certainly true that they are in the habit of calling too many things by their Christian names. That they do talk at times in a language that would be thought very coarse here. Nothing is more common for example than to hear a well-bred English woman talk about being *knocked up,* or *gagged to death,* or *done up like a coach horse.*

> Phrases that are never heard in this country out of the mouth of a decent woman, yet here in America the very poetry and novels of everyday speech and the favorite literature of the age abounds in others that would be thought unpardonable overseas, *bloody* for example.

This writing by John Neal caused some contributors to send him letters and they pretended to be shocked. I can't help thinking that in much of the discussion of taboo there is a pretense of being shocked whereas people are really glad for the chance to air their views on the subject.

We might ask how this taboo on *bloody* is inculcated in England. The answer is the one that I gave a few minutes ago that it results from conditioning in early youth. I came across a novel published in 1937, which shows this very well. This is perhaps a fictional incident but I think it has great verisimilitude. This is from Ruth Adams' *War on Saturday Week.*

> She leaned down to help them up. Mary raised her hand and Cedric made his knee bleed. After that first howl which etiquette demanded, he became extremely proud of the scratch and squeezed it carefully to make more blood come.
>
> "Look, I'm all bloody all over my knee."
>
> "Ssh, you mustn't say that word; it's a bad word," said Nora reprovingly.
>
> "Which?"
>
> "That one about *blood*. Nurse says it's a bad word that it is written on the lavatory wall at school."
>
> Mary and Cedric were impressed. It seemed entirely appropriate that a bad word should be written on a lavatory wall. Lavatories and swear words both belonged to that mysterious brotherhood that must only be spoken of in a whisper, and then not by their own name.
>
> So now, Mary looked accusingly at Cedric and his bloodstained knee, and Cedric was conscience stricken.

It is that matter of being "conscience stricken," you see, that is at the heart of the taboo problem. Also, as a result of this, many false origins have been manufactured to support the taboo. English children are constantly told that it is derived from "by our Lady," so that religion should prevent you from using *bloody*, but there is utterly no truth in that. It is one of the manufactured stories. They are also told that you must not say it because of the social class, that low class people use it. But that is also not true; it is found throughout all social

classes and upper class Englishmen are well known to use it in their moments just with each other.

The epochal change in this word's history occurred in 1911 when George Bernard Shaw persuaded Mrs. Patrick Campbell to speak the word *bloody* in *Pygmalion.* It did cause a national storm but the word survived. I was much interested in what would be done when that was turned into *My Fair Lady* and when I went to that show I pricked up my ears very closely where *bloody* should have occurred. It simply would not operate for an American audience when we don't have that taboo. What would they put in its place? I have here my original little note that I wrote in the dark when I heard the speaker give it: "Move your bloomin' arse." I think that's not a very bad substitute. It uses the *bloomin'* from British speech and *arse,* the intrusion of the "r" that is so characteristic of English speech in contrast to American and yet it fulfills the need at that particular spot in the plot.

Americans have given much testimony to the currency of *bloody* in England. One of the best is in the reminiscences of J.F. Doby, the Texas folklorist, in his book *A Texan in England.* He recorded the conversation of a pub that he loved to go to and this is what he wrote: "One day the genial authority on Esthonia, jellied eel and migration gave us a mild toast ... here's to your blood and here's to your health, if your blood's not good, your health can't be good.... So here's to your bloody health." What a circuitous way to bring the word in, you see, but then Doby goes on:

> The word *bloody* never fails to strike conversation from an Englishman. Of course it no longer carries the odium that made a Victorian mother ban it as one of the two unutterable expressions for her daughter .... she didn't know any others herself.

There's also the report of a Lady Weems, the wife of the tenth Earl of Weems. She was said to be a lady of commanding aspect and alarming demeanor, with a deep resonant voice, and she was attempting to teach the young boys in her presence to say *thank you*. She quite unintentionally terrified a small boy at the school feast:

> "Will you have any more cake, little boy?" she asked in her deepest of tones.
>
> "No."
>
> "No what, little boy?"
>
> "No more cake."
>
> "And what else, little boy?"

"No more *bloody* cake."

It is true that *bloody* is losing its potency in England and if you talk on this subject with an Englishman he is likely to tell you that nowadays they think nothing of the word. But still you find reports to the contrary. When June Havoc was making a telecast, the British censor attended the dress rehearsal, made notes, and then announced the score. Three *damns,* two *hells* and one *bloody* would have to be eliminated, because of the rule in British TV that you can have only one *damn* in every half hour, one *hell* in every half hour, and one *bloody* in every ninety minutes.

The question might arise as to whether we Americans are ever likely to adopt the word *bloody.* It seems, at this late date, as if that will not happen. There was ample opportunity when the American soldiers were in close contact with the English in the last war, but it was not picked up. But I think we can say that British English is perhaps the richer for having it as a rhetorical device and American English is lacking a word that has this formality about it of carrying this particular message.

Is there a solution for the problem of verbal taboo? Will we always have obscenity with us? It surprised me that I found a very strong defense of the use of obscenity in a writer none other than Katherine Anne Porter, who is very sensitive to such things and yet, in the magazine *Encounter* for February 1960, this was the reasoning that she indulged in:

> Yet the language needs these words, they have a definite use and value and they should not be used carelessly or imprecisely. My contention is that obscenity is real ... is necessary as expression, a safety value against the almost intolerable pressures and strains of relationship between men and women. Not only between men and women but between any human beings in this unmanageable world. If we distort, warp and abuse this language, which is the seamy side of the noble language of religion and love, indeed the necessary defensive expression of insult towards the sexual partner and contempt and even hatred of the insoluble stubborn mystery of sex itself, which causes us such fleeting joy and such cureless suffering, what have we left for a way of expressing the luxury of obscenity which for an enormous majority of men, by their own testimony is half the pleasure of the sexual act. We cannot and should not hallow these words, because they are not hallowed and were never meant to be. The attempt to make pure tender sensitive washed-in-the-blood-of-the-lamb words out of the words whose whole intention, function and place in our language is meant to be exactly the opposite is sentimentality and of a very low order. Our language is rich and full and I dare say there is a word to express every shade of meaning and feeling a human being is capable of, if

> we are not too lazy to look for it, or if we do not substitute one word for another, such as calling a nasty word, meant to be nasty, we need it that way, pure, or a pure word nasty. This is an unpardonable tampering with definitions.

Miss Katherine Anne Porter does not convince me. I think that she is defending unhealthy attitudes. I set down my reply in a bit of writing of a few years ago in the preface to the Edward Sagarin's book *The Anatomy of Dirty Words* and I think I want to give you my reply to Katherine Anne Porter. I refuse to accept the situation that she postulates. Anyone who believes in unnecessary defensive expression of insult towards the sexual partner needs to have his sex attitudes revised and reformed. It is not a simple matter to make such re-orientations and so explosive is the sex power that it may take many generations. But an enlightened individual cannot acquiesce in this aspect of our culture. If Miss Porter lived amongst headhunters, she ought to be against head hunting. She shows, I think, that she has been victimized by our cultural attitude. Does half the pleasure of the sexual act really lie in the luxury of obscenity? She attributes this attitude to an enormous majority of men ....

Incidents still keep happening that enforce the taboo. I have taken this clipping from the *New York Post*, for instance, from Old Lyme, Connecticut:

> Is the word *jackass* a dirty word? Socially prominent Mrs. Cameron Osborn of this charming New England town has withdrawn her son Billy from his second grade class because his teacher washed out his mouth with soap after he had used the word. Mrs. Osborn insisted indignantly today that *jackass is* not a dirty word and she said she would keep Billy out of school until his teacher apologized to her, and so on in this report.

Now there certainly is a case where taboo is being reinforced. I have memories from my own childhood that my mother washed out my sister's mouth with soap for using a bad word. I think it was for my own sake that she washed out my sister's mouth and I remember it clearly and oddly enough my sister doesn't even remember the incident.

Other words turn up. Here is a clipping from the Cleveland, Ohio *Plain Dealer:*

> A woman recreation supervisor was given a four-day suspension after using the word "whore" in talking to an 11-year-old girl. Mrs. Sandra J. Tredenny said in her defense that it is a strong word, a good word and one she used while preaching in a Methodist Church. Gerald Turner, the woman's lawyer, said the word was used in a counseling situation at a city recreation center. He said the girl had asked Mrs. Tredenny twice for an opinion of a hair style. She

> reportedly replied that the style made her look like a whore. And the suspension then occurred as a result of that.

There is no easy solution to this problem, for if you simply start using these words you arouse the shocked reaction in the situation where you are and the attempt to use the words then, I think, requires a special name: it is *inverted taboo*. If you expect to shock people you are not *contraverting* the taboo, you are following it, but in an *inverted* way. Our problem then would be to get ourselves into the situation where inverted taboo is not the result. I think I find a glimmering of this that occurred in the year 1941 in the letter of an English father to this son who had been sent to this country to escape the bombing. The father was trying to keep in touch with the son and heard that the son had used some bad language. But his reaction seems to me very wholesome and this is what he said to his son, who was out in Arizona. "I gather from Mrs. Pratt that you came back with more than specimens of the local fauna, with a supply of bad language. No doubt you will be discreet and not use these offensive words in polite society but I hope you will not forget them ...."

It is probable that this shock reaction is dwindling in the general public, year by year and I think we can probably agree with Margaret Mead's analysis in a speech she made only a few weeks ago, and it was reported in a local newspaper.

> Anthropologist Margaret Mead says that the current binge of written and spoken four-letter words will also pass providing everyone doesn't become uptight about it. It's this uptightness in the current phraseology that is at the heart of the problem. We are in a temporary period when it is exciting to light up something that was dark, saying words that were forbidden, exhibiting all sorts of things that weren't allowed before, but this excitement is going to wear out.

It is going to wear out if we do not over-react to it, and feel that it is too terribly important. I think she has hit at the heart of the problem there.

This is asking a great deal of us to continue our serene way without the shock reaction. Geolinguistics can help, I believe, by its emphasis on learning the cold facts about language usage scattered over the earth. The dissemination of such facts will free our culture so that the problem itself will be washed away.

From *GEOLINGUISTICS* 29, 2003. Edited by Wayne H. Finke and Leonard R.N. Ashley. Published by Cummings & Hathaway for The American Society for Geolinguistics.

LANGUAGE REVISION BY DELETION OF ABSOLUTISMS

ALLEN WALKER READ

MANY PROPOSALS, in a wide variety, have been made for revising the English language in order to increase its efficiency and usefulness. Some would deal with the morphological level (*I am, you am, he am, we am, youse am, they am*), while others would make structural changes on the syntactical level, such as altering the subject-predicate relationship. The simplest and most feasible method is revision by vocabulary selection.

The question might be asked whether this is "language revision" at all. In one sense we are revising the language whenever we construct a new sentence. Yet in doing so we are selecting elements from the resources offered to us out of the forms available. Possibly this should be called *idiolectal revision* — that is, the revision of each person's individual usage, not the language itself. It is easily open to us to make deliberate choices on the lexical level.

I am proposing in this paper that we make certain vocabulary choices that will bring our discourse into accord with the world as we actually find it. It is clear to many of us that we live in a process world, in which our judgments can only be probabilistic. Therefore we would do well to avoid finalistic, absolutistic terms. Can we ever find *perfection* or *certainty* or *truth*? No! Then let us stop using such words in our formulations.

In presenting my point of view, I hope that I will avoid the danger of mere "word magic." I am advocating the orientation of relativism and contextuality, and the particular words are important merely because they indicate an orientation. This is not a plea for "moderation" or the "golden mean," worthy as those goals are, but I wish to make a deeper philosophical point. We need a new way of looking at the world, a revised orientation that is sometimes called "Heraclitean" — the recognition of change from minute to minute.

The vocabulary of absolutism is very much with us even on the colloquial level. How easy it is to say: "No, thank you, I'm perfectly comfortable." *Perfectly*? Or we can exclaim, "I'm *absolutely* dead!" Such expressions do not cause any real trouble, but they are symptomatic of a common orientation. One opens a Chinese fortune cookie to find, "Perfection is your everlasting goal." Advertising practices accustom us to absolutistic patterns. Thus in a current newspaper a baking company in Great Neck, on Long Island, claims that it is situated in "the community with the absolutely most discriminating sweet tooth in America (possibly the world)." (1) This uses the rhetorical device of hyperbole, a different matter from what I am discussing.

Foremost among the words to be eliminated is the word *certain*. It is very easy to begin a sentence with, "I'm *certain* that ... "; but it is just as easy to say, "It *seems to me* that ... " The "quest for certainty" has engaged the attention of many thinkers, and it will take a genuine revolution to substitute a probabilistic outlook, to learn to live without certainties.

Sound semioticians will agree, I think, with the dictum of Alfred North Whitehead, in his book *Process and Reality*: "In philosophical discussion, the merest hint of dogmatic certainty as to finality of statement is an exhibition of folly." (2) That passage in the copy of the book owned by Alfred Korzybski was underlined with a magenta pencil, to make it stand out beyond his other underlinings. And yet he had a criticism, for he wrote in the margin: "not with a date." He recognized that the limiting of an absolutism changes its character.

Whitehead paid careful attention to terminology. He discarded the terms *Platonic form, essence*, and others, then continued: "Accordingly, by way of employing a term devoid of misleading suggestions, I use the phrase *eternal object*." (3) Thus he seemed unaware of the dangers of the absolutism *eternal*. Alfred Korzybski, in the copy I have cited, wrote in the margin, "very misleading."

Alfred Korzybski himself has a very good passage in which he sharply attacked the phrase "eternal verities." As he wrote in *Science and Sanity*:

> From time immemorial, some men were supposed to deal in one-valued 'eternal verities.' We called such men 'philosophers' or 'metaphysicians.' But they

> seldom realized that all their 'eternal verities' consisted of *words*, and words which, for the most part, belonged to a primitive language, reflecting in its structure the assumed structure of the world of remote antiquity. Besides, they did not realize that these 'eternal verities' last only so long as the human nervous system is not altered. Under the influence of these 'philosophers,' two-valued 'logic,' and confusion of orders of abstraction, nearly all of us contracted a firmly rooted predilection for 'general' statements, 'universals,' as they are called — which, in most cases, inherently involved the semantic one-valued conviction of validity for all 'time' to come. (4)

Whitehead and Korzybski are only two of a long list of philosophers that could be cited for their opposition to absolutisms. But what is desirable is to make this outlook available to a wide general public, and I wish to propose a device for doing so.

If a jaunty name for a popular movement could be devised, it might catch on and have a widespread influence. What I am proposing is the name "EMA," made from the initials of "English Minus Absolutisms." A wide popular vogue for EMA might sanitize and improve our use of English as a communicative vehicle. "Let's use EMA" could well become an important directive for increasing sanity in our time.

The use of EMA will have many ramifications. Some questionable usages can be spotted easily, but others are somewhat hidden.

For instance, is the word *beginning* an absolutism? The danger of that word has been pointed out in a recent polemical discussion of cosmology, in the following passage:

> We often read scientists who refer to "the beginning of the universe." They are being careless with their language, for to the best of our knowledge the universe had no beginning. It apparently underwent a tremendous transformation some twenty billion years ago, but the transformation was not a beginning in any absolute sense. Scientists shouldn't be giving fodder to those theologians who are determined to find God somewhere. (5)

Is there validity in glittering statements like *Never say never* or *This is a universe where nothing* never *happens*? The opposite of a quality creates an absolutism —*intolerable, ineradicable, insoluble, incorrigible, interminable, impregnable, infallible*. In popular parlance, *irresistible* forces are often meeting *immovable* objects. How can we salvage the useful notion of "invariance"? Can we develop the sensitivity to discriminate between *everlasting* (which is absolutistic) and *enduring* (not absolutistic)? Is *endless* an absolutism?

In astronomy the term "fixed star" has had some usage, by way of contrast with the planets. But it has been found that they are not "fixed." Ptolemy in the second century made a record of the stars as he saw them, but Edmund Halley, in the eighteenth century, found that their relative positions had changed, the closer ones most of all, and now the stars are known to have what is called "proper motion."

The word *fixed* is even less permissible when it is applied to language. A professor of political science at Tulane University has lauded the United States Constitution as having "permanent principles and fixed language." (6)

The notion of "fixed" language, outside the reach of interpretation, is a false one; and clearer thinkers have gone so far as to say that the Constitution is whatever the judges say it is.

One of the most problematical of the absolutistic words is the word *all*. In my own field of linguistics, I am often surprised at the abandon with which some linguists use the term "*all* languages" and then draw questionable conclusions about so-called "universals." They would do well to say "all languages so far studied." This introduces the "limited all" or the "indexed all."

If one says "All chairs have four legs," the *all* there is simply a function of the definition, meaning that an example in the class *chair* is to be delineated by its having four legs. If an innovator comes along and provides a fifth leg, then it is not a "chair," but a "super-chair" or whatever one might choose to call it. If one wishes to consider a three-legged stool, one would have a classification problem that would be decided arbitrarily.

The *alls* that cause trouble are the unlimited *alls*. So prevalent are they in popular usage that some teachers of general semantics inveigh strongly against what they call *allness*. Semantically allied to *all* is the word *complete*. A reorientation would take place if we could build into our discourse the habitual use of *et cetera* (etc.) or at least the awareness of the need of an *et cetera*.

The gruesomeness of "totalitarianism" should warn us of the dangers of the word *total*. In fact, references to the "total woman" in recent years became a laughingstock.

Notions of "perfection" and what is "perfect" plague us, and the pursuit of EMA should do away with them. The epithet *perfectionist* has justifiably become a term of derogation. The late Luigi Barzini, in his book *The Europeans*, found fault with Americans for their "relentless pursuit of ultimate and unreachable perfection" and for their belief in "the endless perfectability of man." (7) Americans do believe in improvement and amelioration, and this can easily be transformed into a belief in "perfectibility." The so-called "idea of progress" is not in itself absolutistic, but many people jump to the conclusion that the goal

of progress must be "perfection" and thus are turned off from it, whereas progress in its natural contexts refers to continual melioration.

In my own experience as a teacher in departments of English, I have continually had to battle the word *correct*, particularly in my course "Problems in English Usage" that I taught for over twenty years at Columbia University. The students come to me, after their years in grade school and high school, with the usual question on their lips, "Is it correct to say so-and-so?" This presupposes that there is some 'well-formed' language 'out there' apart from what appears on people's tongues, and it is very difficult to get across the notion that language is an instrument of social interaction that developed naturalistically. I have to battle the word *correct* continually with substitutes like "Is it *appropriate* to say so-and-so?"

Especially important would be a shift in our attitudes toward English spelling. There is no commoner phrase than "the correct spelling." It forms a matrix in which false attitudes toward language are engendered. If spelling is either *correct* or *incorrect*, then that same standard can be applied to other things too. Here the chief factor is that misleading word *correct*. In all such cases, we should substitute an appropriate term such as "the *conventional* spelling" or "the *traditional* spelling."

If someone asks you, "What is the correct spelling of so-and-so?" you would do a social service by giving a polite but evasive reply. "Well, the *usual* spelling that has developed among writers of English is so-and-so." Your inquirer might be interested to learn that a common word like *good* has been spelled in thirteen different ways, according to the Oxford English Dictionary, with seven more from Scottish usage. But, you should add, it has become conventional to write *g-o-o-d*.

This advice does not amount to a relaxation of standards, for the attempted absolutism causes blockages in the student. The blockages would tend to go away when the student becomes aware of the conventional nature of spelling. Spelling problems would be defused.

It is curious that the very common colloquialism *O.K.*, which had its origin in the phrase *oll korrect*, does not seem to share the pernicious effect of its source, the word *correct*. It has become a very tame word of assent and has weakened into the same sense as *adequate*. In fact, the word *adequate* itself might be considered an absolutism, for what is more finalistic than fitting *just right*? Yet *adequate* now commonly means "barely sufficient."

I am proposing EMA as a popular movement, and I feel fairly sure that it will leave technical philosophers untouched. They will still want to debate the "coherence theory of truth" versus the "correspondence theory of truth" and so

on. But the ordinary speaker of English could well stop saying, "Let's get at the *truth*" and say in EMA, "Let's find out what happened."

The many philosophers who have talked about "the *absolute*" (whatever that could possibly be) have saddled the world with a mess of verbiage.

The absolutistic orientation is the underpinning of the fanaticisms that lead to terrorism and war. A cry from the heart has come from a young Cambodian refugee when he said: "Adults who are sure they are absolutely right, they make war over their absolute rightness." (8) Maladjustments in social and personal relations have the same source. These patterns are deadly serious, but we can combat them by means of EMA in a different spirit. It could be good fun to experiment with winnowing out the absolutistic terms. The "play spirit' habitually motivates much of what we do in language usage, and the "play spirit" could carry EMA along until it became an important factor in our behavior.

When we find ourselves using the very common absolutisms such as *always, never, forever, eternity, pure, final, ultimate*, and so on, we could say to ourselves: "Was that term necessary? Could we frame our sentence in some other way?"

It is tempting to perpetrate the aphorism, "Every absolutism is a pathology." But methodological honesty would require us to go on to say, "including this one." Then where would we be? The word *pathology* may not be appropriate, for we must be generous and understanding in our disagreements. Absolutisms fit very well into the orientations that are generally accepted in our culture.

I am here pleading for the orientation into which absolutisms do not fit. An attention to terminology — the elimination of words that carry the absolutistic message — would call our attention to the new orientation. The orientation is what matters, not the choice of particular words. But particular words coach us in our orientations, so I feel justified in presenting the desirability of EMA.

Let us go forward fervently in popularizing EMA.

NOTES AND REFERENCES

1. The *New York Times*, October 10, 1984, p. Cll.
2. Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (New York, 1929), p. X,
3. Ibid., p. 70.
4. Alfred Korzybski, *Science and Sanity* (Lancaster, Pa., 1933), p. 140.
5. Deane Starr, in *Free Inquiry*, Vol. 4, No. 4 (Fall, 1984), p. 59.
6. Gary L. McDowell, in The *New York Times*, October 10, 1984, p. A26, col. 6.
7. Luigi Barzini, *The Europeans* (New York, 1983), pp. 230 and 238.
8. The *New York Times*, November 9, 1984, p. Al, col. 6.

The words listed below represent examples of "absolutisms" cited by the author. — Ed.

absolutely	eternity	interminable
all	everlasting	intolerable
always	final	irresistible
beginning	fixed	never
certain	forever	perfection
certainty	immovable	perfectly
complete	impregnable	Platonic form
correct	incorrigible	pure
endless	ineradicable	total
essence	infallible	truth
eternal	insoluble	ultimate

From *ETC* 42-1, Spring 1985.

A Bibliography of Allen Walker Read's Articles

in *ETC: A Review of General Semantics* and the *General Semantics Bulletin*

Available online at: www.time-binding.org/library/awr.

From *ETC: A Review of General Semantics*

Vol 13 No 1, 1955: The Term 'Meaning' in Linguistics

Vol 19 No 3, 1962: Linguists and the Sense of Mission

Vol 21 No 3, 1964: The Particularization of "You Know What"

Vol 23 No 2, 1966: Is American English Deteriorating?

Vol 26 No 1, 1969: Critical Evaluation of Rapoport's Paper

Vol 33 No 2, 1976: The Search for Semantic Units

Vol 39 No 1, 1982: The Contribution of Sociolinguistics to the Peacekeeping Process

Vol 39 No 4, 1982: The Relation of Definitions to their Contextual Basis

Vol 40 No 1, 1983: The Semiotic Aspect of Alfred Korzybski's GS

Vol 40 No 4, 1983: The Criteria for a Class of Jocular Words in English

Vol 42 No 1, 1985: Language Revision by Deletion of Absolutisms

Vol 44 No 3, 1987: The Relation of Semiotics to GS

From the *General Semantics Bulletin*

GSB No 8: Signal Elements Within English Words

GSB No 28: Comments on *Webster's Third New International Dictionary*

GSB No 41: Comments on Walter Probert's Paper "Law Talk and Word Consciousness"

GSB No 47: Formative Influences on Korzybski's General Semantics

GSB No 49: Is There a Place for "Mysticism" and "Occultism" in General Semantics?

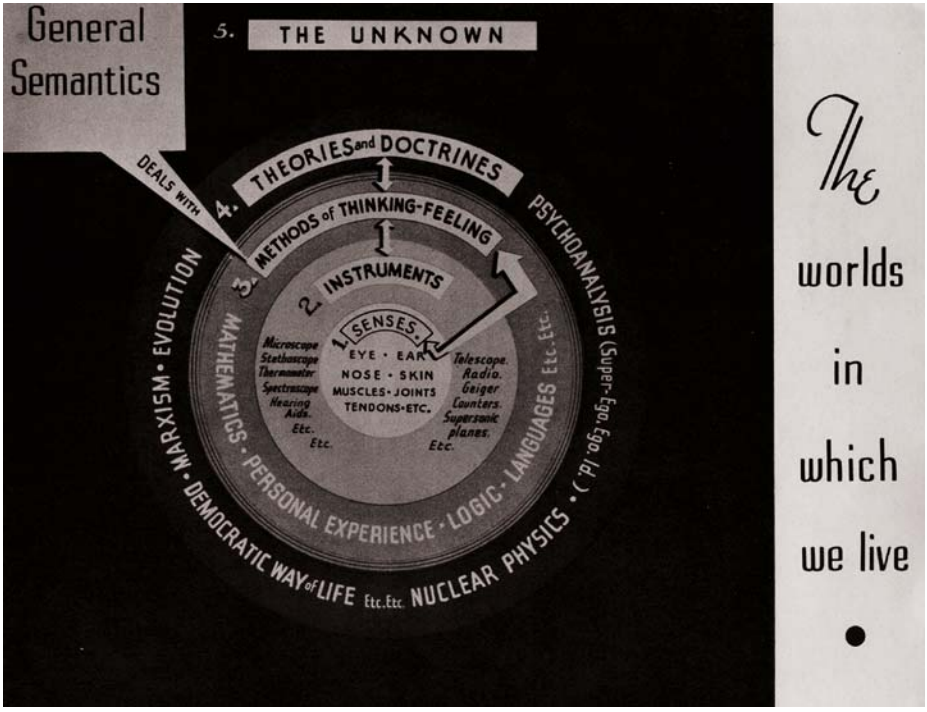
GSB No 49: The Contribution of Sociolinguistics to the Peace-Keeping Process

GSB No 51: Changing Attitudes Toward Korzybski's General Semantics

GSB No 52: Is General Semantics Compatible with Utopianism?

GSB No 59: How Important Is the Terminology of Korzybski's General Semantics?

General Semantics Monograph III, 1942: "The Lexicographer and General Semantics, with a Plan for a 'Semantic Guide to Current English'"



THE WORLDS IN WHICH WE LIVE

J.S. Bois

The chart entitled “The Worlds in Which We Live” is designed to represent the various areas of our knowledge of the world.

- The central circle covers the field of what we perceive through our 'senses.' This field is limited, and it is not the same for all of us. The messages we receive from our 'senses' are influenced by many factors that render them less reliable than we believe.
- Circle 2 covers the world as revealed by the various scientific instruments that men have devised in the course of generations to supplement their senses. These instruments reveal a world greater and more complex than our senses can perceive.
- Circle 3 covers our methods of thinking-feeling, which are our 'mental' tools. With these we interpret our experiences, guess what lies beyond them, explain what has happened, decide what to do, forecast what is going to happen in the future, and communicate with one another. Some of these methods are conscious, but most of them are unconscious. They are man-made, although we are apt to take them for the 'normal' mechanisms of 'human nature.'
- With these methods we build theories and doctrines (circle 4+), which may or may not stand the test of experimentation. Even when these theories are confirmed by experiments and experience, they are not adequate representations of the world of phenomena. This remains the dark 'Unknown' (5) through which we move.
- General Semantics (formulated by Alfred Korzybski in *Science and Sanity*) deals with circle 3, that of our Methods of Thinking-Feeling. Among these methods language is very important, and the word 'semantics' reminds us of this fact. But the new discipline is not limited to language. It covers the study and the overhauling of other methods of thinking-feeling, such as mathematics, logic, personal attitudes and habits acquired from individual experience, etc. Hence the word 'general,' to distinguish it from semantic disciplines that are more limited in scope.

Since our methods of thinking-feeling influence all other fields (see arrows on the chart), the study of General Semantics is basic, and a good training in its techniques becomes useful in all human activities, scientific and 'practical.'

J.S.A. BOIS
14 OCTOBER 1948

From an IGS mailing to members. Reprinted with permission of Mr. Gary David, www.philosphere.com.

"IN SHORTS" FROM LANGUAGE HABITS IN HUMAN AFFAIRS

IRVING J. LEE

WHAT SHOULD you get from this book?
Students who read this book carefully should get:

1. a sense of the problems and difficulties involved in making accurate statements about themselves and the world in which they live; and,
2. a sense of the maladjustments, both personal and social, that have their roots in improper evaluation, because of false-to-fact language habits.

Given this awareness, none of the principles set forth need be taken on 'faith.' There is nothing mystical or mysterious in their origin, their analysis, or their use. Having come from the empirical findings of modern science, they should be checked by the same methods.

Because this book was designed as an introduction, no effort was made to exhaust the possibilities of adequate language habits. There remain enough to fill many books. There are, however, a sufficient number of 'new' habits outlined here to keep one busy for a long time — and the experience of teachers shows that it is likely to be even longer than you think.

Chapter II — The Useful Use of Words

A map is not the territory. To be most useful, statements must fit, must be similar in structure to the life facts being represented. Words can be manipulated independently of what they represent, and so made false to fact both consciously and unconsciously. In either case their reliability and our predictability are impaired.

The basic question: not, *What did he say?* but *Did what he said fit the life facts?*

Chapter III — The Many Uses of a Word

Relatively few words are available to represent an infinity of objects, situations, happenings, feelings, etc. Any one word may have many uses. We waste time looking for but one-and-only-one-'meaning.' Misunderstanding and confusion arise when readers and listeners assume that their word uses are also the word uses of writers and speakers. Only study of the utterance and direct questioning can reveal the use.

The basic question: not, *What do I represent by the terms?* but *What does he?*

Chapter IV — Acquaintance, Abstracting, Non-Allness

We see what we see, but human nervous systems cannot get to 'all' the details of anything. Our speech abstracts some details and neglects others. Partial descriptions must not be defined as 'complete.' The assumption of 'allness' leads to tension and conflict, the preservation of ignorance, and the blockage of further learning.

Habits to be acquired: 1) a consciousness of abstracting; and 2) memory of the *etc.*

Chapter V — A World in Process

In this world 'things' and 'thinking' are ever in process. There is no 'rest.' Our language use too often emphasizes the static. We speak *as if* life facts were not changing, *as if* our statements fit for 'all-time.' The time factor must become a part of human orientation.

Habits to be acquired: 1) consciousness of the process character of nature; and 2) *date* your statements.

Chapter VI — Indexing Makes the Differences

No two of anything in this world have been found 'identical,' absolutely the same in all respects. Similarities are abstracted by neglecting the differences. Too often we discriminate *against* rather than *between* individuals. Differences must not be obscured by habits of identification. Language use must represent both similarities *and* differences. An infinite-valued orientation does not project few values on to facts, but starting with the facts of direct experience makes language similar in structure to them. We need devices to give the sense of difference in our evaluations.

Habits to be acquired: 1) consciousness of *similarities in differences and differences in similarities*; and 2) *index* your statements.

Chapter VII — Facts First, Then Words

To be oriented *extensionally* is to realize the primary importance of life facts, to emphasize the roles of observation and investigation, to go to the facts first and to abide by them. To be oriented *intensionally* is to order behavior in terms of definitions, arguments, verbal proofs, and theorizings, essentially disregarding the existence of verifiable life facts. Fairy tales, fiction, myths, etc., may be considered intension-with-a-purpose. Verbalization which represents what goes on inside-the-skin must be analyzed as such and not in terms of its correspondence with facts-outside-the-skin.

The basic attitude: "I don't know. Let's see."

Chapter VIII — A Spell of Words

Words do not exist in objects, situations, feelings, etc. Words can affect human evaluations, but not 'things.' Calling a spade a *shovel* does not change *it*. In spite of the experiments in euphemism, the ascription of magical properties to words, and the taboos of certain words, language serves as a form of representation. To respond to words as if they were more than symbols of something other is to revert to the primitive and the infantile.

The basic question: not, *What was it called?* but *What was being so called?*

Chapter IX — Descriptions and Inferences

Event, Objective, Descriptive, Inferential — these constitute different levels of abstracting, and in that progression the natural order of human evaluation. Descriptive terms, because closer to life facts, actional and functional, make verification and agreement possible. Inferential terms add to the products

of direct experience, introducing judgments, conclusions, creeds, theories, etc. Life is impossible without inferences, which, nevertheless, must be differentiated from descriptions. Confusion of the orders of abstraction leads to non-adaptive signal reactions, automatic, unconsidered behavior, copying animals in our responses. Delay of reaction gives time for observation and more human symbol reactions.

New habits to be acquired: 1) consciousness of abstracting in different orders; 2) recognition that descriptive statements are inferential statements; 3) delay for an instant while looking.

Chapter X — When to "Keep Still"

Silence on the objective levels is paralleled by silence in human responses. To get to silent levels, we must keep still. Silence_1 makes possible consciousness of many details and the abstracting therefrom, gives time for more looking, develops a more critical attitude, and helps to induce delay-of-reaction. Silence_2 in the play of social situations may breed antagonism and ill will, for the conventions of group life encourage idle conversation and *phatic communion*.

New habit to be acquired: Get to silent levels by learning silence.

Chapter XI — The Four "Is'es"

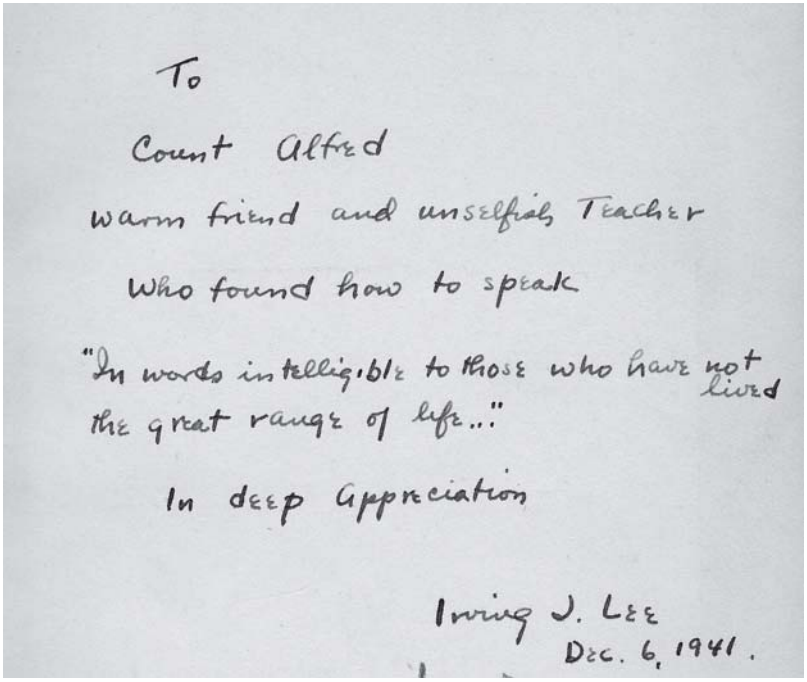
Something cannot exist as something else. An object is not a word. An object may be classified in as many ways, by as many terms as an observer wishes in terms of his interests at a date. When any form of the verb *to be* is followed by a noun the translation "may be classified as" should serve to prevent the assumption of 'allness' — that there exist no other modes of classification. Sense impressions arise as a *joint phenomenon of an observer with something observed*. 'Qualities' do not exist in 'things,' though projected there by implications of any form of the verb *to be* preceded or followed by an adjective. The translation "appears to me" reveals the existence of relations and helps dissolve the conflicts which come from ignorance of the projection mechanism.

Basic question: not, *What 'is' it?* but *How may it be classified? How does it appear to you?*

Chapter XII — The Necessity for Application

"One of the best ways for grown-up persons to train themselves in the present theory of sanity is to try to explain it to others, repeatedly pointing to the Structural Differential. In my experience, those who have disregarded this advice have always made very slow progress, and have never got the full semantic benefit of their efforts." — Alfred Korzybski

From an IGS handout mailed to members, 1941-42.



Lee's inscription to Korzybski inside his *Language Habits in Human Affairs*.

THE USE OF GENERAL SEMANTICS IN TEACHING THE LANGUAGE SKILLS IN THE EIGHTH GRADE

DONA W. BROWN

LIKE MANY English teachers in high schools and junior colleges I have found that the attempt to improve my students' language skills constitutes the heaviest burden of my teaching. The language problem has been given a great deal of attention in recent years; hundreds of texts have been produced which are intended to teach the student to read, to write and to 'think.' Most of these books when analyzed prove to be mere re-formulations of 'ideas' which have been recorded many times before. The method of each is substantially the same, that of objurgation, or telling the student what to do without giving him a general method and a system for doing it or an insight into the causes of his difficulties. General semantics had been reported as effectively increasing the general 'intellectual' efficiency of groups of students and it seemed apparent that it could be applied in the particular field of language operations to replace the

purely verbal, hortatory methods which prevail in most schools. (1) In 1936 at the Barstow School for Girls in Kansas City, Missouri, I set out to use this discipline for a direct attack upon the various language difficulties which I found in my classes. This paper presents a brief account of the methods and procedures that I used and the results I observed, and also some objective test data for the second group of students who were exposed to this training. (2)

My first step was to make each student conscious in a very specific way of her own particular difficulties. This analytical approach seems to be diametrically opposed to the sort of 'animal learning' inherent in current educational practice. Children of twelve to fifteen have a latent ability for self-criticism and we went on the assumption that this faculty should be developed specifically as they are maturing. Before any training in general semantics was introduced, significant misunderstandings of both oral and written material and many examples of failure to communicate adequately were brought to the attention of the class, and I kept a record of them for future reference. During this time the subject matter of the course centered around the study, theoretical and historical, of language as a human function. The students were carefully introduced to the nature of symbolism and were taught to understand that language functions as a form of representation.

I first touched on Korzybski's system by demonstrating the analogy he makes between maps and language symbols in relation to territory-facts. In the science-mathematics classes, the students were constructing, at this time, a clay relief map of Europe and the Near East. Since the map was used to demonstrate the geographical factors determining racial and linguistic distribution, the danger of misrepresenting territory-facts became concretely apparent. The girls began to see that 'what they really knew' (or 'meant') was of small consequence if they could not communicate it adequately through structurally correct forms of representation. The very obvious fact that the most detailed as well as structurally similar map is the most reliable guide to a territory showed them the pitfalls of loose, general terminology, which roughly includes 'everything' and gives little clue to what they know.

Most of the application of the Korzybskian system was made in connection with the structural differential. I planned it this way for two reasons: a) The differential had been in front of the class for some time and had aroused a good deal of interest. b) It is a device around which so much of the material of general semantics may be organized. In explaining it I was able to introduce the students to the notion of the process character of 'matter,' to drill them in the realization that the object of sense-perception is not the event, nor the word the object, to bring home to them an understanding of the projection mechanisms of the human nervous system and their dangers, and to discuss the need for a

structurally correct representation of the world. An understanding of these points was necessary before any direct application to the language material could be made.

Although reading and writing difficulties seem to represent similar semantic blockages, I made a practice of approaching the two problems separately, when explaining them by means of the differential. For problems in expression, work with the lower orders of abstraction on the differential and discussion of multiordinal terms were most valuable. Handling the loose strings on the differential increased the students' consciousness of characteristics left out when we represent experience, a point already learned from the map project. At this time I explained and prescribed the use of *indexes, dates*, and the *etc.*, and the value of always remembering them while writing and speaking. These extensional devices helped to direct the girls' attention to things they might have left out through 'carelessness' and to eliminate the vagueness and confusion of expression which comes from lack of consciousness of:

- abstracting and projecting,
- the absolute individuality of events and their relatedness,
- the abstract nature of our vocabulary, and
- the false-to-fact orientations (subject-predicate forms, etc.) we get from the structure of language itself.

The differential used in conjunction with concrete experiences is the most effective device I have ever found in dealing with the prevention and correction of reading difficulties (the failure to comprehend verbal material). With the aid of the differential, I was able to demonstrate that in reading as in other types of learning we are attempting to make the acquaintance of the world outside our skins by means of symbolic representation of this world. I showed the students that when they are reading a book or taking oral directions, the expressions of the writer or speaker become events or unalterable empirical data in the outer world which must be transferred to their own nervous systems with structural accuracy. (They must reconstruct the facts represented by the words.) By means of a diagram I demonstrated the insuperable blockage which the habit of unconscious projection of uncontrolled verbal association tends to set up between themselves and the reading material. This experience helped the students develop a feeling of the need of integrity in their own representations of the outer world. Lack of this feeling appears to be at the root of most reading difficulties, especially those of the more elusive type, not always detected by reading examinations, but very troublesome to the student and puzzling to most teachers.

I noticed particularly that this new orientation greatly increased the students' ability to grasp 'larger meanings.' For example, it tended to clear up certain persistent types of errors they had previously made in attempting to grasp the general import of a paragraph or any other long unit of writing. The consciousness of the fact that we omit characteristics in every act of representation put them on their guard against an over-inclusive, too general interpretation of the material indicating inattention to important limiting or extensional details. On the other hand, the training tended to reduce the frequency of too narrow interpretations, especially the inclination to literal reading of any group of words that strikes the attention, instead of seeing them as a part of an 'ordered and inter-related whole'; for example, the training tended to eliminate the "that's what it says here" type of answer.

By the end of the year I found that all my students' work had improved remarkably in several definite respects. After old themes had been revised, in the light of their new understanding of how language works, I found that their writing was more lucid and adequately organized. The general weaknesses that come from using words without 'thinking' of the 'meaning' they carry (or, more exactly, visualizing the facts represented) — including poor paragraph construction, faulty logical transitions, contradictory statements and repetitions — were understood much more readily and quickly corrected. On form B of the Nelson-Denny Reading Test, given in May, the average improvement over the scores on form A, given in September, was twice the normal expectancy. (Both forms were scored and reported by the Educational Records Bureau.)

In class work I noticed an interest in more exact interpretation of words, especially 'contextual meanings,' an increased ability to understand sentences of more complex structure, and an improved comprehension of the objectives of a given lesson or textbook assignment. In sum, such rudimentary training in general semantics as my groups of students had in these two years, so much improved their ability and confidence in using the language, that most of them were able by the end of their year in the eighth grade to perform academic tasks beyond those usually prescribed for children of their age.

Also significant are the comparative percentile ratings for one group of eighth grade girls on the American Council Psychological Examination, forms for 1935 and 1936. These tests were administered in September, 1937 and May, 1938. Epidemic conditions in Kansas City in September interfered with testing all the girls in the group. Only eight girls in my class were present during the 'test weeks' in both September and May. The tests were scored by the Educational Records Bureau, which reported the comparative percentile ranks given below. These percentiles are based on the scores of over 1500 ninth grade students in Independent Schools, members of the Bureau. As no other member

schools administered these American Council Psychological tests to eighth grade students, the Bureau had no norms for this grade and our students were compared with ninth grade students in other schools.

	September, 1937 Percentile Rank Total Score	May, 1938 Percentile Rank Total Score	Points Gained in Comparative Percentile Rank
Student 1	27	53	26
Student 2	37	78	41
Student 3	18	60	42
Student 4	64	90	26
Student 5	6	31	25
Student 6	10	67	57
Student 7	73	94	21
Student 8	6	72	66

Average gain for this group in comparative percentile rank – 38.

I believe that it is particularly significant that not only the ‘poor’ students showed phenomenal gains but also the students in the upper percentiles gained considerably in relative standing in a group of 1500 more advanced students.

NOTES

1. See General Semantics. Papers from the First American Congress for General Semantics, March, 1935. (New York: Arrow Editions, 1938). This volume contains early papers on the subject.

2. The use of general semantics by the writer in teaching eighth-grade language skills was part of an over-all re-orientation of the educational program at the Barstow School originated and directed by M. Kendig, Head and Educational Director of the school, 1934-38. This paper was written in the autumn of 1938 in co-operation with Miss Kendig, as a brief article on specific applications of general semantics methodology and the observed results on one grade level. Some other aspects of the work done under this educational program are discussed in the following, all of which are available in reprint form (see publication list of the Institute of General Semantics, Chicago): M. Kendig, 'Language Re-Orientation of High School Curriculum and Scientific Control of Neuro-Linguistic Mechanisms for Better Mental Health and Scholastic Achievement.' Presented before Educational Section, A.A.A.S., St. Louis, December, 1935. Published in General Semantics, New York: Arrow Editions, 1938 (Lithoprinted, 6 pp.); 'This Living Barstow: Implications of Linguistic Revision for School Learning and Personality Adjustment.' Address given at Kansas City, April, 1937 (Printed, 13 pp.); 'Comments on the Controversy over the Nature and Constancy of the I.Q. as a Measure of Potential Growth,' Educational Method, January, 1940 (Printed, 2 pp.); M. Kendig and D. W. Brown, 'Elective English Language Unit for the High School, 1936' (Mimeographed, 9 pp.); Sarah Michie, 'A New General Language Curriculum for the Eighth Grade,' Modern Language Journal, February, 1938 (Printed, 5 pp.).

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Dona W. Brown was a teacher, 8th Grade, Barstow School, Kansas City, Missouri.

TEACHING GENERAL SEMANTICS TO THOSE LESS LIKELY TO SUCCEED:

A Teaching Experience with High School Dropouts

Alfred Fleishman

"See what I have in my hands?"

"Yeah, it's a pair of glasses."

"You're wrong. It's the smallest color television set ever made."

"And you're a nut. It's a pair of glasses. And you can't change it by calling it a color television set."

"You mean you can't see the soap opera that's playing on it?"

"Get this guy a straight jacket. He's some kind of nut!"

That more or less undignified conversation took place in a class of high school dropouts, most of whom were in the Street Academy of St. Louis ... and most were there at the prodding of their parole officer.

Can these street kids be taught general semantics ... human communication ... and what good will it do them anyway? We sought the answers to these and many more questions in a unique experimental teaching experience.

"Are you trying to tell me that I can't change this pair of glasses into the smallest color television set ever made?"

"You some kind of lunatic or something? That's a pair of glasses, and you can't change it by calling it something else."

"Oh, then can I make you a liar by calling you one? Can I make you anything I call you by calling you that?"

"I guess not."

Pursuing the principle of "the word is not the thing" with this group was a great challenge ... and great fun.

"What would you do if I called you a son of a bitch?"

"I would get out my peace maker ... and you wouldn't do that no more."

"What's your peace maker?"

"Call me a son of a bitch and you'll find out!"

"You mean you would rub me out just for calling you a name?"

"Yeah, that's exactly what I mean. I couldn't let you get away with calling me a name even if I had to take the risk of five to ten years if I got caught."

"Are you saying that it's really worth five to ten years of your life and maybe the rest of your life to kill me because I called you a name and you couldn't let me get away with it? Is that what you're saying?"

"Yeah."

"Is that the only way to handle words or names like that?"

"It's the only way I know. I'm saying that it ain't manly to let you get away with that."

"But can I make you a son of a bitch just by calling you one?"

"Never thought about it that way before."

"Could it be a bad language habit?"

"What the hell does that mean?"

"Do you have to fight with people or rub them out just because they say something you don't like? Can their words *make* you what they *call* you?"

"I guess not."

So began a series of weeks and weeks of working with kids from ages fourteen to eighteen who were "least likely to succeed."

In many of our discussions and classes, more than bad language habits were revealed. Some of the facts that govern the lives of these students were revealed. Listen.

> "That's the way I always thought it was and that's the right way to handle situations like this. Life is just a big fight ... like a big battle all the time and you have to keep your guard up and be ready to fight all the time."

> "Fight for what? We're not talking about somebody beating up on you or stealing from you. We're talking about somebody *talking* to you. Can their hot air, the sounds coming from their throat, hurt you? How can they hurt you?"

"It hurts me when somebody puts me down. I can't take that. If somebody hits me, I hurt. But the pain goes away after awhile. What don't ever go away is when somebody puts me down, makes me feel like a damn fool. That never goes away. I can't remember who hurt me last with their fists. But I got a whole list of people that I won't ever forget."

"Why won't you forget them?"

"Because they made me feel like I was dirt ... like I was nothing."

"How did they do that?"

"By the way they talked to me."

Through this method of teaching general semantics, we were able to develop some principles such as:

1) Everybody wants to feel like somebody
2) The word is not the thing
3) Listening
4) Words and meaning
5) Verbal, non-verbal and tactile communication
6) Language habits
7) A hostile approach begets a hostile response
8) Little things make a big difference in how people get along with each other
9) The IFD formula (Idealization — Frustration — Demoralization)
10) Allness
11) Etc.
12) Indexing
13) Dating

If we are to increase the knowledge and the importance of general semantics, then I believe we need very much to seek, explore, experiment, and even adopt new methods and techniques of teaching and learning.

I have no problem with many of the learned and scientific papers on the subject, even though I sometimes have difficulty extracting the usable meaning of the information imparted.

There are a number of different reasons for my problems or difficulties. Among them are my admitted ignorance (how's that for applying the *etc.*, principle?) of many aspects of the subject. Others are the language used by the writers, highly technical language, that is. They imply sometimes a high degree of knowledge, reading, and learning. There are still others, but enough for now.

My first exposure to the subject of general semantics came in 1954 when the International Society for General Semantics held a meeting in my hometown, St. Louis, at Washington University. I delivered a paper at the time, which was later published in *ETC: A Review of General Semantics*.

Its subject was "Bringing General Semantics Down to Earth." I have been taking off on that theme ever since.

More recently, I have been talking with a group of young people in the Juvenile Court of St. Louis County. Among the preventive measures adopted by the court is a learning program to assist these young people in troubles of one kind or another in qualifying for their high school equivalency (GED).

The same principles of communication are used. According to the authorities, the kids like the exchanges that take place. Interestingly enough, I have found what I regard is a degree of intelligence and a grasp of the subject that rates them much better than average, from my experience.

Could one assume or deduce from this that many of the young people who are in trouble with the police or the juvenile authorities are pretty savvy to begin with?

Is that one of the reasons they are in trouble ... or were they "dumb" enough to get caught while others "made it" before they got too far off the beaten path?

I don't know, and I certainly have no scientific answers. But, I do know it's a great challenge talking with and debating the subject with these kids, and I always go away feeling invigorated mentally.

Frequently, in our teaching of the subject, I remember some of our earliest experiences in the business of communication. I recall very vividly to this day what happened when one of our clients gave us a proposed handbook for employees and asked us to "put it in English so our people would or could understand it."

My partner Bob Hillard, a Phi Beta Kappa, Summa Cum Laude graduate from the University of Minnesota School of Journalism, and one of the most

brilliant persons I ever knew, also labored over the legalese.

We came to a portion that, no matter how hard we tried or what combination of words we used, it just didn't make sense. So, we went back to the client, telling him of our failure and of our deep concern with not being able to understand what the lawyers were driving at.

So, our client called the attorney who wrote the pamphlet and told him that we were having trouble with the copy.

"Read it to me," said the legal author. After it was read to him, he admitted he didn't know what the language meant either, even though he had written it!

That's not so unusual, I suppose, except that the attorney turned author said, "I don't know what it means either, but leave it in anyway!"

How many other tomes are written by people who not only don't know what they mean but are even unwilling to try to have it make sense? There's lots of room for teaching and understanding the subject of human communication, with particular emphasis on the effect of words on our nervous systems. That, to me, is what general semantics is "all about."

In the meantime, we'll keep writing and talking and teaching and preaching that we need to make sure we really continue to do something about "Bringing General Semantics Down to Earth" between those very erudite and complicated tomes on the subject.

Because if we don't, we shall end up talking to ourselves, and that would be a real tragedy for everyone who could benefit from better and improved understanding.

From *ETC* 43-1, Spring 1986. Alfred Fleishman was co-founder of Fleishman-Hillard, Incorporated, St. Louis, Missouri.

WHAT WE OBSERVED IN TEACHING GENERAL SEMANTICS

CATHERINE MINTEER

THIS QUESTION has been asked: *If it were possible to adapt a system of semantic training for children, could it be given at the elementary level?*

Our answer to this question is based on the results of experiments conducted in Chicago schools during a three-year period. Three hundred seventh- and eighth-grade students at the Nettelhorst School were taught a series of lessons adapted from the materials and methods that have proved so inspiring to Dr. Irving Lee's classes in general semantics at Northwestern University. Our classes ranged in size from forty-two to forty-eight students each. The chronological ages ranged from 12.0 to 15.4, the I.Q.'s from 84 to 130, the standardized reading scores from 5.8 to 13.0+. There were also wide ranges in cultural and economic backgrounds.

In addition, student teachers used our general semantics course in other Chicago schools of different economic, cultural, and racial backgrounds. Experienced teachers, supervisors, and administrators who visited these classes, as well as the classes at Nettelhorst School, commented on the enthusiasm, the

wide participation, the careful listening, and most important of all, the ability of the students to apply what they had learned to real-life situations.

The following paragraphs discuss some of our reasons for being so enthusiastic about teaching general semantics to our upper-grade students.

1. General semantics unified the areas of learning.

Although we placed the subject in the curriculum under the language arts division, we found as the lessons developed that we were stimulating interest in science, social studies, mathematics, and the fine arts. A keen desire to participate in the discussions provided the students with a strong motivation for study in many fields. Students observed the relationship of their subject to their total learning. As one boy said, "It makes all your learning come together and add up."

The applications of the lessons gave us an opportunity to work in human relations and in mental hygiene. We found also a place and a means for consideration of ethical and moral values.

Students were aware of the timeliness of this teaching. We did not have to justify this subject by saying, "It's a requirement for the next grade," or "You will appreciate this some day." The students were eager for self-knowledge; they gathered round the place where we came to grips with the questions and problems that were part of their everyday life.

2. General semantics reached each student at his own level of experience.

The student spoke of his own experiences when he contributed examples of real-life situations to his class. He read at his own reading level when seeking an illustration of some general semantics principle. Since there were activities and applications within the capacity of all, it was possible for each student to have the satisfaction of numerous successful experiences in communication. Enthusiastic participation was a criterion of the success of our lessons.

We had met a basic need of all children when a student had the feeling of being part of his group and of having something worthwhile to contribute. Some who had been rejected or who had been isolated by the group established a new relationship with their peers as they gained prestige through having an opportunity to report on some special interest or hobby. One uninterested boy, who was waiting for his sixteenth birthday so that he could drop out of school, was gradually drawn into the lessons until one day he approached his teacher with his little group of followers and asked, "Where can you get this stuff in high school and college?" For the first time we had reached him with what we had to offer.

If a teacher is willing to pioneer in general semantics teaching, and it is a new field, he will find his reward in numerous such reactions of students.

3. General semantics led to better student-teacher relationship.

When the student learned how difficult it was to achieve effective communication and saw how frequently adults make semantic errors, he realized that conflict between himself and persons in authority might be due to misevaluations in thinking and speaking.

Through a sharing of common experiences in the class discussions, a better understanding and a spirit of co-operation developed. We learned more about our students' backgrounds and standards in these discussions than we had learned in many of our tests or surveys. One student told of a visit backstage to meet Mary Garden; another in the same lesson found her example in her rat-infested home; and a third spoke of his afterschool job as a delivery boy. Only in this truly democratic atmosphere could these children share their experiences with the confidence that they would be respectfully considered by the group and understood by the teacher.

Each lesson was a new adventure in teacher-student relations; teacher and students were thinking together, laughing together, learning together, and with it all the teacher had the feeling that perhaps he was laying the foundation for a "togetherness" that our world needs so much today.

4. General semantics improved the emotional climate of the classroom.

The teacher who applied semantic techniques in his teaching stimulated and enlivened instruction in all subjects through the use of multisensory devices: activities, trips, firsthand experiences, and audio-visual aids.

If the teacher applied general semantics principles to his own thinking, he was likely to avoid snap judgments, cynicism, arrogance, and easy generalizations. He was aware of differences, change, and multiple-causations. His freedom from the tensions caused by misevaluations proved the most important factor in freeing the students from tension.

Our students reflected the attitude of the parents toward the school and its program, and we knew that establishing favorable public relations tended to result in a happier classroom. The handbook, *It Starts in the Classroom*, published by the National Education Association, Department of Classroom Teachers, presents many applications of general semantics principles for achieving good home and community relations.

5. General semantics altered student behavior.

Students who had this training asked more questions. They also listened more attentively. They evaluated their sources of information more carefully. Because of a new motivation, they read more widely and with greater interest.

General semantics provided the teacher with a way of talking to students when counseling them. Students seemed to examine their motives and conduct in a new light, and this self-scrutiny often led to changes in behavior.

The student was taught that these lessons had little value if they were regarded as so many facts to be learned. He learned that the lessons were successful only if they went more than skin-deep, that they were successful only if he applied this new learning in other classrooms, on the playground, on the street, and in his home.

6. General semantics stimulated wide, critical reading.

The reading lists given in this book were compiled from student reports and are available in class readers and in school library books. They represent a wide range of interests and reading abilities.

About midway through the course, we introduced the reading to find evidence of, or illustration for, a theory. The students were asked to read for examples of "allness" or "statements of inference" or "failure to date" in their Junior Scholastic or Current Events papers or in daily newspapers. A student who found such an example reported it to the class, and the class read it to verify his finding. After a few weeks of such training, the students extended this procedure to library books. Students seemed to read with more care when preparing for a panel discussion of how the people in their particular books showed patterns of evaluations that led to misunderstandings or to agreements.

7. General semantics motivated written expression.

We did no writing in these classes until the students expressed a need for it. At first many students in our classes of from forty-two to forty-eight students were very shy about speaking to the group. About midway through the course that shyness disappeared. Then often, after each class, we heard the complaint, "I had something to say, but I didn't have a chance to say it." Discussions were continued around the teacher's desk and in the halls, and sometimes even into another classroom. We decided that a bulletin board, where we could post written applications of the lessons we had studied, would give everyone a chance to express himself. It would also provide stimulating reading material for our spare

time. The stories that the students wrote proved to be interesting, revealing views of their personalities and backgrounds.

8. General semantics emphasized maturity rather than competition.

The students became keenly interested in their own individual growth, and, as a result, they developed insight into their own problems. They often expressed pleasure when they discovered that they were able to understand and to overcome some block to their progress.

When the pressure of competition was removed, each student seemed to enjoy and to encourage the progress of other students; they did not show concern when their achievements were surpassed by other's achievements.

This interest in self-improvement and the harmonious inter-student relationship fostered by the principles of general semantics made for a happier classroom for both student and teacher.

From *Words and What They Do To You* by Catherine Minteer, first published in 1953 by Row, Peterson and Company. Text available online at:
www.time-binding.org/library/minteer.

———

"Children must be free to think in all directions irrespective of the peculiar ideas of parents who often seal their children's minds with preconceived prejudices and false concepts of past generations. Unless we are very careful, very careful indeed, and very conscientious, there is still great danger that our children may turn out to be the same kind of people we are." — Major General Brock Chisholm, first Director General of the World Health Organization

EDUCATION AND THE MODERN WORLD

JOSEPH BREWER

A PUBLIC ADDRESS these days is scarcely respectable unless it announces in ominous tones that we live in a changing world. And the statement is doubly platitudinous because of course we have always lived in a world whose principal characteristic is change. If the rate of change has seemed accelerated in our day, this is probably due to the multiplicity of inventions which have facilitated rapid communication — telephones, automobiles, airplanes, radio, etc. These mechanical devices have in fact materially altered the surface of human living. But we have, on the whole, adapted ourselves fairly readily to them.

Few of those speakers, however, who talk to us about the difficulties of adjustment seem to be fully aware of the profundity of the changes which have taken place in our human world during the last thirty or forty years. Fundamental changes have gone on in the basic processes of our 'thinking' and these are only just beginning to affect, and to affect profoundly, our everyday lives. As our understanding of the structure of the world both outside and inside our skins has grown, re-orientations in our ways of 'thinking' such as have not

taken place for nearly three thousand years have become necessary — necessary if we are to make use of the vast possibilities for human happiness which this world contains, necessary actually for human sanity.

Up until thirty or forty years ago it had been possible to describe and account for everything we had so far observed in the universe, including man himself, in terms of Aristotle's theory of knowledge. All the mechanisms of which we were aware could be interpreted within the bounds of this great man's logical formulations. (I use the term mechanisms in the sense of natural processes — not man-made machines.) But finally our means of observation were sufficiently refined to permit our discovery of structures and processes which could not be explained on the basis of Aristotle's logic, or more specifically, in terms of Euclidean geometry or Newtonian mechanics. It became necessary, therefore, to invent new formulations, more highly generalized than these older systems, and such a process is now going on. We have already seen the development of several non-Euclidean geometries, the quantum mechanics, Einstein's Relativity and unified field theories, etc., in the realm of mathematics and physics. In fact, the very foundations of mathematics have been revolutionized in our day. But this is not all, for similar events are taking place in all fields. For instance, the structure and behavior of colloids cannot be described and accounted for on the basis of the older formulations, and the postulates and procedures of psycho-analysis and modern psychiatry are also outside the bounds of Aristotle.

Now, important as these speculations may be for the scientist, many will complain that they seem remote from our everyday doings and undergoings. Yet that is farthest from the truth, for the implications in these higher abstractions for our so-called 'practical' affairs are tremendous, although applications of them are only just beginning to be made. The modern automobile and aeroplane, radio, motion-pictures, television and hundreds of the common objects and devices of our environment, as well as much of modern medical and surgical treatment, etc., would not have been possible under the older formulations. If we are to adjust ourselves satisfactorily to a world which includes such things we shall have to learn to use the types of 'thinking' involved in these new non-Aristotelian orientations. For it is not 'the war' or 'the movies' or some other symptom, which is responsible for the confusion of values so obvious in our 1937 world, for the tremendous increase in so-called 'mental illness,' crime, war, poverty, and human misery in general, but precisely the failure to make the adjustment in our 'thinking' that is required for living in a world now functioning in these new terms.

The confusion is evident. It can be seen all about us. It is clearly reflected in much of our art and literature. The need for a new psycho-logics, a new general

theory of value is obvious and the call for it can be heard on every side. Such books as Dr. Alexis Carrel's *Man, the Unknown* make it very clear. Happily, however, the application of some of these newer ways of 'thinking' is gradually being made to human affairs. Recently, moreover, a general formulation based on what, for lack of a better term, we have had to call a "non-Aristotelian orientation" has appeared in the General Semantics of Count Alfred Korzybski. Mr. Stuart Chase, in his new book *The Tyranny of Words* discusses at length the approach and the implications of this new formulation as embodied in Korzybski's own work, *Science and Sanity*. The term 'semantics' is derived from the Greek *semantikos*, 'significant,' from *semainein*, 'to signify,' 'to mean,' and has been widely used in various restricted contexts. As the term "General Semantics" implies, Korzybski uses it in its widest sense to indicate the reaction of the human organism-as-a-whole, the significance, the meaning by which we evaluate our experiences.

Now in education the need for a workable theory of values, a general integrative principle has become acute and the search for it has been widely publicized of recent years. Much of the discussion of 'integration' to which we have been exposed, however, has had to do with the superficialities of the curriculum rather than with human beings. But even this has served to indicate a real need and recently some more thoroughgoing proposals have been made for bringing order out of our all-too-patent educational chaos.

The issues have supposedly been fairly sharply drawn. In one camp stand the representatives of the Humanist Tradition with Dr. Hutchins, the President of the University of Chicago, at the head. In the other, stand the representatives of the Scientific Tradition. The cry of the Humanists, greatly simplified, seems to be "Back to Aristotle," or at least to Metaphysics and the Classics. A classic, it should be said parenthetically, is defined as a work which has permanent value, which would be great in any age. The cry of the Scientists, who of course derived originally from the Humanist Tradition, seems to be "Away with the Past, Away with Metaphysics. We live in the present and only the methods of scientific research can save us." The Humanists cry chaos, instability and lack of principle at the Scientists. The Scientists cry authoritarianism, obscurantism and ostrich at the Humanists. The sensible man, as the 18th century might have said, inclines to cry, "A plague on both your houses."

But of course that is not good enough. On closer inspection one inclines to suspect that the Humanists are perhaps insufficiently aware of what has been going on in science or they would not attempt to force a non-Euclidean, non-Newtonian world into the outgrown pattern of the Aristotelian-Thomist tradition. For it is a sad mistake to think that we can go back to these earlier designs. And yet the desire for a conscious metaphysical basis for education, for a clearly

articulated structure of values is entirely reasonable. Nor should we neglect the classics of our culture. We stand on our ancestors' shoulders. Man is a 'time-binding' class of being, to use Korzybski's phrase. Man alone has invented extra-neurological means of preserving his knowledge. It is this which has produced civilization and to be 'civilized' and 'cultured' human beings we need to be acquainted with the monuments of our civilization and culture.

Apart from the great pleasure that reading the classics gives us and the standards for aesthetic taste which they provide us, we need to know, to interpret, and so to understand in principle the successive stages by which we have arrived at our present state if only that we may avoid the mistakes of the past. This too often the scientist, or perhaps it would be wiser to say the pseudo, or superficial scientist, forgets or neglects when he wishes to dispose of the past. We need to study men and their activities in all ages, men as poets and artists as well as scientists, warriors, politicians, etc., if our understanding of ourselves is to increase. Too often also, your pseudo-scientist, of which the world is full, is unaware of the metaphysical basis of his own work, of the underlying assumptions and undefined terms upon which his whole structure of generalization and methods rests. Only through consciousness of these fundamentals is it possible to gain any measure of control over experimentation or to achieve any predictability of results. In education these things have been often neglected and thus confusion has been worse confounded. Moreover, your pseudo-scientist too frequently is satisfied to produce his generalizations in a special field without going on to apply them to wider human affairs and so he lays himself open to the Humanist charges of isolation and sterility.

Of course your true scientist and your thorough-going Humanist can have no real quarrel. Their approach to the world differs, but their aim is similar. Only of late they have both lacked the general formulation, the epistemology which could bring them together.

In General Semantics we have the basis for such a formulation. Founded on rigorous scientific method using standard knowledge provided by the diverse branches of scientific enquiry, General Semantics represents a natural order of evaluation which can once more provide us with a direction, an Ariadne's thread for our 1937 maze. It might well take its place as the inheritor of the great Humanist Tradition, taking all knowledge including science to be its province and from which nothing that is human is considered alien.

Primitive religion in its attempts to account for the observed ways of the world, including man, was the beginning of our organized knowledge. Increasing observation, control and understanding of the structure of the world finally produced the conditions in which Aristotle's systematic formulation was possible. In the development of our culture since then, two main lines of approach

can be broadly traced; if you like, the extrovert and the introvert, the objective and the subjective. In later times, these two attitudes have been influentially represented by Hobbes and Rousseau, one standing roughly for 'reason,' for 'classicism,' the other for 'intuition,' for 'romanticism.' If one were to make use of the formula of the Hegelian dialectic, one might say in rough description that Hobbes represents thesis, Rousseau antithesis and now General Semantics appears as synthesis.

With its basic metaphysics clearly stated, General Semantics is founded on a set of negative premises, since paradoxically enough, these constitute the only positive knowledge we possess. Moreover, its undefined terms are clearly labeled as such. Starting from this foundation, it proceeds by rigorous scientific method to investigate man as an organism functioning continuously as a whole in space-time. In the course of the investigation it appears that man's language function is of paramount importance for his happiness since it affects directly the functioning of his nervous system and hence his adjustment to the world outside his skin, including other human beings. Unless his verbal and symbolical structures, which can actually alter the constitution of the colloids in his nervous system, are similar to the structure of the world in which he lives, he is like a man trying to find his way in unknown territory by means of a map of some other country. His 'knowledge' is false to the facts about him and he lives in a world of confusion, if not of illusion. Moreover, the further reaches of this difficulty are delusion, hallucination and insanity.

Out of this investigation of man's language function (in which of course mathematics appears as a language, structurally the most accurate we have because most nearly similar in structure to the universe) comes the discovery that there is a natural, normal order for the functioning of the human nervous system determined by the structure of the nervous system itself. This establishes inevitably a natural order of evaluation. Evaluation implies morality and so we come full circle and touch all of man's activities, including literature, art, science, politics, economics, religion, etc. And perhaps it should be stated that General Semantics has no quarrel with religion as such. Here indeed the old pseudo-struggle, the misunderstanding between science and religion is resolved. Against the primitivistic elements of formal religion, General Semantics does take a definite stand since it regards these as outworn structures, delusional in the light of 1937 knowledge and so inevitably generators of insanity. It regards, too, the hortatory method of promoting morality as ineffective since it consists mainly of talking about symptoms rather than doing something to affect the underlying mechanisms. But by a proper allocation of symbols it can assign a definite functional value to the basic intuitive impulses, motives and attitudes of religion as a human activity.

General Semantics, however, does not merely present us with a general theory of values, but it also provides us with what may be called a technique for sanity, an educational instrument of the greatest value and of proven effect, which can be used either with individuals or for mass training at all levels and all ages. In the last few years an impressive amount of experimentation and clinical work has been done in semantic training not only of so-called normal human beings but also of persons in advanced psychotic states. The results have been universally predictable and uniform. It will suffice perhaps to point out that the psychiatric work of the University of Chicago Health Service is being conducted entirely on the basis of General Semantics with notable effect, and that an increasing number of institutions for the mentally ill are making use of its methods with equally impressive results.

While the use of General Semantics as a therapeutic technique is significant, perhaps its most important possibilities lie in the field of education not only for 'straight thinking' and for the prevention of mental illness but for the general facilitation of the learning process, for increasing mental efficiency and as a method for clarifying, refining and increasing human knowledge. Many valuable and interesting experiments with its uses in this field have been conducted in recent years and others are under way now in different parts of the country. It will suffice perhaps to mention only one or two to indicate what is being done, what is being accomplished. The further this work goes the greater the possibilities seem. They are unfolding continually before us.

In 1934 and 1935 at the Washington State Normal School in Ellensburg, Washington, experiments in Semantic training were conducted with groups of thirty sophomores over periods of six weeks. Even after this brief training quite astonishing results appeared. Control groups closely approximating the experimental groups were used and the Detroit Intelligence Test, Advanced Form, was administered before and after training. In one case the mean score of the experimental group advanced from 128 before training to 169 after training, a gain from the 46th percentile to above the 90th percentile of the national norms. In another case, the mean score of the experimental group advanced 36 points to the control group's 6, a gain from the 62nd percentile to the 96th percentile of the national norms. Moreover, there was a reduction of emotional maladjustment in the experimental groups as measured by the Pressey X-0 Tests.

Similarly striking results have been achieved in the course of the last two years in the Barstow School in Kansas City, where, after a course of training for the whole faculty of the school to insure a General Semantics orientation throughout the school, specific General Language courses were organized for eighth grade and tenth grade students in which the language function and the function of language were both investigated and training in General Semantics was in-

troduced. The effects of this work have been felt throughout the school with a marked advance in the quality of scholarship quite evident as well as a heightening of interest, a better adjustment to living and a general 'toning up' of the whole institution.

Examples could be multiplied from the Williams Institute in Berkeley, California and elsewhere. In individual cases the beneficial results of the general semantics training conducted by Count Korzybski during several visits to Olivet have been observed here in the College. With the impressive and mounting body of evidence pointing to the effectiveness of the technique of general semantics, we should be failing in our educational duty if we did not try to make use of this new instrument for the advantage of the students in our charge as rapidly and effectively as possible. Consequently, we are attempting this year to make as solid a beginning as we can and we shall hope to extend the work as rapidly as we can see our way clear to do so.

Through the basic orientation of general semantics the College, it is hoped, will be able to present a better integrated education program to its students. It will, we hope, derive the strength, direction and vitality which come from a clearly perceived theory of value. It will also, we trust, find new and richer meaning in the Great Tradition of human learning. More than all, we hope that it will be enabled thereby the more effectively to help its students make the most rather than the least of the possibilities that lie almost untapped in human nature.

From *Papers from the First American Congress for General Semantics*, organized by Joseph C. Trainor, Ellensburg, WA, March 1-2, 1935. Dr. Brewer was President of Olivet College, Olivet, Michigan.

RE-EDUCATION IN READING:
A Report of Applications of General Semantics in Remedial Work in Reading

O.R. BONTRAGER, PH.D.

I

IF SOME MAGICAL TRANSFORMATION could be produced in men's ways of looking at themselves and their fellows, no inconsiderable part of the evils which now afflict society would vanish away or remedy themselves automatically .... As an old Stoic proverb has it, men are tormented by the opinions they have of things, rather than by the things themselves.

So says James Harvey Robinson in *The Mind in the Making*. (1)

In a recent yearbook on reading, Maude McBroom poses the question, "Why is the problem of reading instruction so puzzling?" Then she goes on to say that in no other area in the school curriculum has so much research been done. (2) Thousands of words have been printed, and filed in the archives of educational research. Educational institutions almost without exception have courses in the teaching of reading. Literally hundreds of tests and other devices for measuring

reading 'ability' or improving it, flood the market. Yet, despite all such evidences of 'progress,' writers continue in ever-increasing tempo to call attention to the 'deplorable' state of affairs as regards 'reading.' Pupils fail in school because of 'reading.' 'Reading' tastes of the people at large are at a 'low' level. College students do no 'reading' except what is required. Etc.

It is somewhat disturbing to find that in the midst of all the professional 'heat' that is generated about the 'reading' question there is so little 'light.' No writer on reading methodology, to my knowledge, has ever troubled himself to define 'reading' operationally. Of intensional definitions there is seemingly no end. I recently computed the Intensional Agreement Index of forty-eight definitions of 'reading' as they appear in the current literature, using the method suggested by Johnson. (3) I find the degree of agreement for 'reading' to be 16 percent of the maximum possible agreement.

Despite such a tremendous divergence in definition in the professional literature in this area, leading 'authorities' continue to add new words to 'reading' glossaries. I find hundreds of words thrown about with reckless abandon. One author tells us 'reading' is done with the eyes, while others speak of 'abstracting thought from the printed page'— or 'apprehending,' 'ascertaining,' 'assimilating,' 'comprehending,' 'constructing,' 'extracting,' 'getting,' 'gathering,' 'making,' 'mastering,' 'organizing,' 'perusing,' 'sensing,' 'transforming,' 'understanding,' etc. They speak of 'chains of ideas,' 'concepts,' 'span of recognition,' 'eye spans,' 'perception spans,' 'eye-voice spans,' 'visual spans,' 'memory spans,' 'auditory spans,' etc.

Were Saint Paul to stand on Mars hill today and survey the mass of verbiage in current 'reading' treatises, he might well exclaim again: "Ye men of Athens, I perceive that in all things you are too superstitious. For as I passed by, I found an altar with this inscription, TO THE UNKNOWN GOD."

Almost never do I find diagrams or pictures. I fancy that when it occurs to writers in general that it would be more convincing to supply us with diagrams of the 'get' in getting thought from the printed page,' etc., that much of the meaningless babble in educational treatises will be eliminated, with consequent benefit to our educational systems and to those who are afflicted with what are labeled *reading problems*.

II

In my diagnosis of 'problem' cases in 'reading,' the data which I have been collecting over a period of three years reveal in almost every instance some or all of the factors which I will discuss.

First, there are almost always some identifications on the part of parents, teachers, and the 'remedial' case.

Almost without exception, parents are chagrined over the failure of the child; they talk about a brother or sister who did 'better;' they are critical and fault-finding; they often see in the failure in 'reading' evidences of 'mental' deficiency. In a large majority of cases there is a history of nagging, scorn, unusual punishment, ridicule, etc.

The picture is essentially the same for teachers. It is a rare teacher who does not look upon a 'reading' difficulty as a kind of 'mental' deficiency. Data which I have assembled from 329 teachers indicate that the most frequently mentioned explanations of 'reading difficulties' are these: 1. 'mental' deficiency; 2. lack of 'interest' — 'He doesn't want to learn;' 3. 'laziness;' 4. 'stubbornness' or 'cussedness;' 5. mysteries, such as reversals, mirror writing, something 'wrong' with the 'eye-span;' 6. etc.

The 'remedial' case manifests evidences of similar identifications. In virtually one hundred percent of my cases there is marked tension in the reading situation as evidenced by a high pitched voice, 'squirminess,' fearfulness, outbursts of crying, facial contortions, 'nervousness,' 'timidity,' etc.

Frequently there is a record of extreme dislike for school with truancy, incorrigibility, etc. In two years I have not encountered a single case where the child did not feel that either a teacher, a parent, or a brother or sister did not 'like' him.

A *second* series of factors, which seem to operate, are certain practices in our educational systems, such as:

1. *The belief that there is a one correct way of doing a thing.*

This often leads to a two-valued orientation with respect to any pupil who does not succeed under the stimulus of *the one* way. Consequently, parents and teachers often come to the clinic hoping for a simple answer as to *the best* method. The educational literature is full of similar either-or tendencies. For example, research has sought, and in 1941 is seeking, answers to such meaningless questions as: 'Which is better, a system of phonics or no phonics?" "Should pupils vocalize when they read or not?" "Which is better, the word or the sentence method?" "Should first teaching of reading be oral or silent?" Etc. In many such instances it would be as much to the point to ask if the ocean is deep or wet. The effect on the pupil of dogmatic answers to such questions is, of course, tragic. Since most, if not all, systems claim to be using the best method, the child who does not succeed under the system is at fault, or his case is 'puzzling,' etc.

2. *The system of classifying pupils in a manner false-to-the-uniqueness-of-the-individual.*

In terms of this system, instruction is invariably directed to a mythical 'average' pupil in the room, to the detriment of the actual individuals.

In most of our schools the entrance age for children is six years. Despite the fact that the thirty pupils in a classroom did not learn to walk, or talk, feed themselves, dress themselves, etc., at the same age, all pupils in the class are commonly subjected to the same reading regimen at the same time.

All are given the same kind of book. All are expected to do the same things with the book. Before entering school, no one on Massachusetts Avenue became excited if Mary Jones did not take her first step at the precise instant little Billy Smith took his first step. There were no 'problems' if Mary and Billy did not burst into speech at precisely the same moment on Tuesday morning, April 21. Yet, if under our regimented systems Billy and Mary do not learn to read at the same time, hurried conferences are arranged between papa, mama, and teacher to discuss the 'problem.'

Some years ago I visited the schools in a township in southwestern Pennsylvania in company with the principal. Throughout the day, we were impressed by the groupings of the children in the various classrooms. The practice in this system called for dividing the children in each room into 'good' and 'poor' groups. In virtually every classroom, the majority of the pupils in the 'good' groups were girls, while the boys were chiefly in the 'poor' groups. During a talk to the teachers that evening I mentioned this. One teacher was puzzled. "I cannot understand why the girls should be 'better' than the boys," she said. "They were all taught the same." Perhaps that is the reason.

3. *An almost universally prescribed system of book instruction from the day the child enters school.*

This makes it almost impossible to establish adequate word-fact relationships for many pupils, encourages intensional orientations, and practically excludes extensional training. (4) There appears to be a fetishistic belief in almost universal operation, that to learn is to learn from books. Here is reflected the philosophy of 'get' which so completely dominates the reading field today. If reading is 'getting thought' from the printed page, then it follows that printed pages in the hands of children are of first importance.

Keyser in *Thinking about Thinking* says:

> Every human mind is a doctrine factory ... A mind that is too feeble to invent doctrines itself always adopts doctrines invented by others. Consequently, we

> all of us hold a large variety of doctrines regarding a large variety of subjects. We value them partly as helping us to live well, partly as in a measure gratifying our desire for knowledge of the world, *but mainly as creeds that we are bound to make prevail*. [Italics mine]. To make them prevail we resort to every conceivable means: rational and irrational, savage and civilized, brutal and humane, force, fear, flattery, bribery, threats, ostracism, prayer, preaching, and teaching. Yet most of the doctrines which we thus hold as sacred creeds and solemnly urge upon the world are unintelligible, vague, incoherent, ignorant, shallow, silly, logically rotten. (5)

Viewed in the light of science in 1941 the sponge or absorption theory of reading ('getting thought' from the printed page) becomes so primitive that it might well be regarded as another pre-aristotelian relic. In terms of modern 1941 theory we recognize reading as involving essentially the relating of a map to a territory. (6) Under our present system, we concern ourselves principally with the maps and forget the territory. As Whitehead aptly puts it, "In the Garden of Eden, Adam saw the animals before he named them: in the traditional system, children named the animals before they saw them." (7) In short, we take children still predominantly extensional and undertake to induct them overnight into a world of predominantly intensional orientations.

I recently completed a brief study which verifies in a striking manner the preoccupation of educators with maps rather than territories in their instructional procedures. In this country, instruction is usually based upon a series of 'readers' — a so-called 'graded' list of books. A child typically 'reads' one or perhaps two books in the series each year that he is in school. Several series now provide four or more books for the work of the first year.

The authors of many of the newer series of 'readers' have written guidebooks in which they set forth at some length descriptions of teaching procedures which they regard as effective. An examination of such a guidebook should reveal some of the unstated assumptions about map-territory relating, etc., upon which the author erects his system of instruction.

I have examined two such guidebooks for instruction for the first year. The basis for the analysis briefly was this: If the reading book used by the pupil contains a story about Jack and the Circus, the appropriate section of the guidebook was analyzed to determine: (a) How many lines in the guidebook were devoted to territory in this connection. For example, if twenty lines in the guidebook described procedures for actually taking children to a circus, etc., then twenty lines were credited to 'territory.' (b) If the guidebook suggested showing pictures of circus animals, tents, clowns, etc., and devoted ten lines to a description of procedures to use in connection with pictures of a circus, then

ten lines were credited to pictures. Although nonverbal, pictures are forms of representation, abstractions from the territory-facts and so have some of the same characteristics as maps and other forms of symbolism. As the analysis proceeded, however, such a dearth of contact with actual territory was suggested that pictures were included as a non-verbal classification, in order to 'brighten' an otherwise hopelessly 'dark' situation. (c) If the guidebook devoted thirty lines to a description of procedures to be employed to teach children how to 'sound out' words, recognize words, respond to verbal questions, etc., then thirty lines were credited to maps.

A summary of the analysis follows:

	GUIDEBOOK FOR SERIES A		GUIDEBOOK FOR SERIES B	
	No. Lines	Percent of Total	No. Lines	Percent of Total
Maps	3,079	94	8,025	86
Territory	0	0	111	1
Pictures	174	6	1,114	13
Total	3,273	100	9,250	100

When I tell you that the sales of one of these series of books approaches, if it does not exceed, ten million copies, do you wonder that the experts everywhere are 'excited' because children cannot 'read?' To be perfectly blunt about it, the poor youngster, in most instances, is never given the opportunity to learn.

We set up elaborate schemes to 'add' to the vocabulary of youngsters. We emphasize the importance of finding the 'meaning' of a word — always with a dictionary. In short, we provide a diet almost exclusively of word-word relating, and then become 'puzzled' when 'problems' arise in 'reading,' which is primarily a matter of word-fact relating. As Semmelmeyer and others have shown, general semantics as a method rectifies some of the errors in our present system, and as a result 'reading problems' as such, are considerably reduced. (8)

4. *The practice of allowing maladjusted teachers to remain in charge of children.*

The very system which results in so much failure for pupils, also indirectly contributes to the maladjustment of teachers. Teachers often have little voice in the determination of classroom methods, policies, or materials. Too often they operate on ready-made programs handed to them by administrators. I know

many schools, for example, where teachers are still required to follow a printed schedule which stipulates the number of pages all children in a room must have read on a given date — an impossible task in any situation.

In many communities teachers have no tenure. They hold their positions subject to the whims and caprice of the local barber, garageman, banker, or what not. Marriage, smoking, dancing, etc., are often causes for dismissal. So widespread is the influence of such conditions that Ryan commented in his Commonwealth Fund report that simple friendliness on the part of the teacher was found in strikingly few of the classrooms he visited. (9)

A *third* factor, which I commonly find in my analysis of reading problems, has been designated by Johnson as *diagnosogenic*. (10) In a large majority of my cases no one ever guessed that the case was anything other than a 'normal' individual until some 'reading difficulty' was said to be present. Mysteries are then invoked by the educators to explain the difficulty. Mothers read articles about 'reversals,' 'word-blindness,' 'eye-movements,' 'attention-span,' etc., and come to the clinic prepared to name the demons with which little Willie is afflicted. I interview mother, teacher and child individually, and in their responses to my question, "What do you think is the difficulty?" they parrot the same mysteries.

III

The remedial program often has to be three-fold. It involves literally the re-education of parents, teacher, and child. In this connection, I find general semantics indispensable.

The most difficult task in the program of re-education is to convince the child that he *can do it*. One approach which I have found successful with the 'non-reader' is to show him a pencil, asking him at the same time, "What do you call this?" He answers, 'Pencil.' Perhaps I then ask, "How did you learn that?" He answers, "I heard some one call it a pencil." Then I write the word *pencil*. I may say, "Here I have written what you called it. Can you remember how this looks and what you call it?" Often I get this astonished reply, "Oh, is that all there is to it!" All I have done in this case is to make clear the relationship between word and fact-map and territory.

In other cases this task is not so easy. It often happens with acute 'problem' cases that the reactions in a reading situation have become almost as unconditional and automatic as the typical person's reaction to a snake, for example. Here the technique of using indexes and dates, provided by general semantics, becomes particularly valuable. In such cases I often do not attack 'reading' directly at all.

Sometimes I show the subject a simple visual form — a square, for example. I permit him to look at it long enough so that he may carefully observe it. Then I ask him to find this figure exposed in a group of other similar figures. After he succeeds with this and other simple forms like triangles, circles, ellipses, right angles, stars, etc., a transition is made to numbers or words. Once I succeed by this or similar means into literally 'tricking' him into a successful performance, he has convinced himself. The rest is comparatively easy.

As soon as the subject succeeds in understanding the nature of 'reading,' as here indicated, I permit no disjunctive saying of words. Under our present system with its emphasis upon parrot-like saying of words, it makes no difference to the child if he 'reads' the expression "I saw the tree" as "I was the tree." In either case he has parroted words. However, when he has become aware that the map represents a territory he has a system of evaluation which prohibits his 'reading,' "I *was* the tree." Consequently, the demon 'reversal' evaporates.

IV

It will be recognized that I have dealt here only with a very small category of individuals who are looked upon *by the followers of our elementalistic educational system* as 'reading problems.' It is a category composed of individuals whom we might dub "those who have not discovered how to follow 'tracks' or words." For in our present state of atomistic 'thinking,' saying words, or, following the word 'tracks' verbally, is widely accepted as 'reading.'

Students of general semantics realize that the great society of homo sapiens might in a very real sense be regarded as a disorganized, milling horde of 'non-readers,' *unaware that the tracks are only tracks and nothing more* — maps for which, all too often, no corresponding territory can be found.

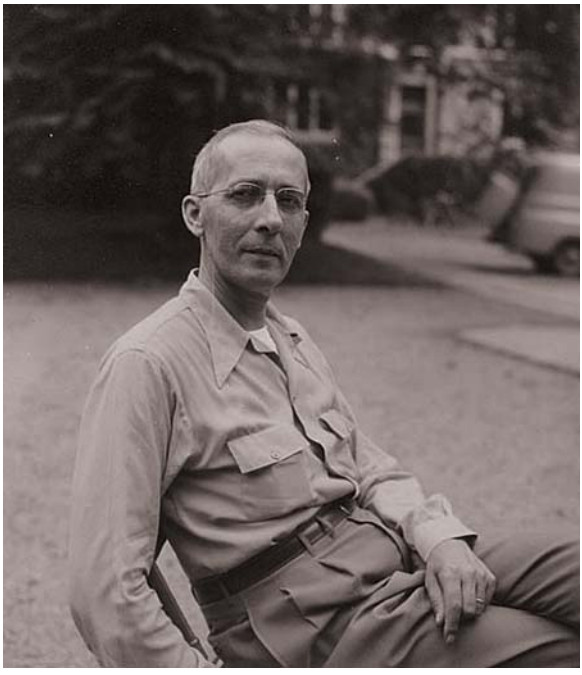
Perhaps we have here a hint of some of the factors which may be responsible for the cultural disintegration of our time. For following these 'tracks,' frequently without checking upon the existence or possible non-existence of the territory, are doctors and laymen in quest of the secrets of health; individuals in quest of financial 'security' through proper investment; those in quest of 'spiritual' food; young women in quest of 'personal charm;' economists in quest of a 'sound' fiscal system; educators and distressed parents in search of a solution for a 'reading problem;' the scientist in quest of an enlarged understanding of some aspects of the universe; generals in quest of military 'victory;' negotiators around a table in quest of 'lasting peace;' etc.

And this host of 'non-readers,' who in the long reaches of history have followed tracks, unaware with a few notable exceptions that the tracks were only tracks and no more, has left in its wake, and is continuing to erect, gigantic

'monuments' — 'monuments' of war and pestilence; of oppression and slavery; of poverty and starvation; of hatred and persecution; of neon lights and billboards and yellow journals; of superstition, ignorance and quackery; of fear, misery, and unhappiness — all told, a colossal 'monument' of cultural disintegration.

To meet this problem, one searches the traditional treatises on reading in vain. Happily, we have at last appropriate preventive and remedial treatment. For one value of general semantics lies significantly in the fact that it provides us with a method of reading; a method of properly evaluating tracks as tracks and no more, until *we relate them* to facts, etc.

What I have described is not magic. I have brought forth no new word for the glossary, nor a new machine for revolutionizing the 'reading' of mankind. There is no need for magic, new words, or machines. Our 'reading problems' arise largely because of our primitive, elementalistic educational system. As we learn to change our methods of evaluation, our ways of looking at our fellows and ourselves, and consequently our ways of 'reading,' if you please, many of the 'evils' which afflict us will indeed vanish away.



O. Ray Bontrager

NOTES AND REFERENCES

1. James Harvey Robinson, *The Mind in the Making*. New York: Harper and Brothers, 1921, p.3.

2. Maude McBroom, "Desirable Scope of the School Program in Reading," *Newer Practices in Reading in the Elementary School. Seventeenth Yearbook*. Washington, DC: Department of Elementary School Principals, National Education Association, 1988, p.235.

3. Wendell Johnson, "Language and Speech Hygiene: An Application of General Semantics," *General Semantics Monographs*, No. 1. Chicago: Institute of General Semantics, 1939, pp.6-9.

4. This refers to Korzybski's discussion of intensional and extensional orientations and of word-fact relationships; the criterion of similarity of structure as the standard of adequacy, proper evaluation and so predictability. These have been set forth in his seminars at the Institute of General Semantics and in his book, *Science and Sanity: An Introduction to Non-aristotelian Systems and General Semantics*. Second edition; Lancaster, PA: The Science Press Printing Company, 1941. See pp.55-101, 133-247, 381, 465, 632,639.

5. Cassius J. Keyser, *Thinking about Thinking*. New York: E.P. Dutton and Co., 1926, pp.56-57.

6. This refers to Korzybski's use of the map-territory analogy in presenting the notion of word-fact relationships. See Note 4.

7. A.N. Whitehead, *Science and the Modern World*. New York: Macmillan Co., 1931, p.278.

8. Madeline Semmelmeyer, "Evaluation of the Application of General Semantics Methodology in a Reading Readiness Program," *Papers from the Second American Congress on General Semantics, 1941*. See also her paper, "Promoting Readiness for Reading and for Growth in the Interpretation of Meaning," *Reading and Pupil Development. Proceedings of the Conference on Reading Held at the University of Chicago*, Vol, II. Chicago: University of Chicago Press, 1940.

9. W. Carson Ryan, *Mental Health through Education*. New York: The Commonwealth Fund, 1938, p. 31.

10. See Wendell Johnson, op. cit., p.39.

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Dr. Bontrager was Assistant Director of Teacher Training and Director of the Reading Clinic, State Teachers College, California, Pennsylvania.

THE USE OF GS IN THE MOTIVATION OF A SELECT GROUP OF HIGH SCHOOL STUDENTS: Summary of a Project

Sonia Leskow

Introduction

One of the most challenging problems of education today is that of motivation. Its importance has become so recognized that teachers spend most of their energies finding ways to get students interested and ready for new topics. No matter how high the individual's ability, his success in a subject area is unpredictable, for he cannot be forced into being receptive and into putting his best efforts into its study.

The question of what makes people get interested in some things more than in others is elusive. One can get entangled in discussions of what are 'real causes' and what are 'underlying causes.' Some educators explain interest as dependent upon such things as 'clarity of meaning,' a certain newness giving a feeling of discovery, amount of present application value, amount of 'emotional tone,' possibilities for associating with past experiences, degree of previous success or achievement, etc.

With these criteria educators go about making teaching plans and hope to get results. Pupils who are not thus reached are often discounted as exceptions, which cannot be explained. Others might 'explain' the 'exceptions' by saying

that where there was no learning there was no motivation. Can such a conclusion be made?

It might be valuable to go to the disinterested pupils themselves for reasons, for no matter how fine the motivating devices, there may be counteracting resistances in the form of strong negative attitudes toward the subject, the teacher, or merely the name of the course. It seems that more attention has been paid the forces that motivate one's interests than to the negative pressures. When a pupil tries to explain why he is *not* interested in or dislikes a subject, it might be easier to analyze his answers for errors in reasoning, by applying our supposedly more mature standards. It would seem that the next step would be to break down the blockages by getting at the basic assumptions underlying these attitudes.

It was the purpose of this study to analyze the answers given by high school students and, in a few cases, to explore the possibilities of finding methods of changing attitudes in order to improve academic achievement. For classification of the answers, mis-evaluations stressed by the discipline called 'general semantics' were used. A short course in general semantics was taught to a small group of students, who were later checked for evidence of increased participation in class-work and improvement of grades.

The school had an enrollment of about one thousand students; four hundred were in grades seven through twelve. Of these four hundred, one hundred were interviewed for the first part of this project. In view of the many uncontrollable factors involved and because of other limitations in the selection of pupils in such a small school, no attempt was made to set up a control group. Change in grades was taken as the major measure of improvement.

Collection of Data

The selection of students to be interviewed consisted of three screening processes. First, the students of grades seven through twelve were asked what subjects they disliked on a questionnaire listing all the offerings of the school. Directions for marking were on the questionnaire, and my only additional remarks were that this project was being conducted by me personally, and that the other teachers would have no access to the answers. Students were urged to be honest and accurate. Although nothing was said about marking subjects with which they had little experience, there were many who showed definite attitudes toward them also.

Early in the semester I asked teachers to give me the names of those who seemed indifferent, and who they believed were not working to capacity. Al-

though this information would have little value in itself, it was supporting evidence for the other two means of obtaining names.

Finally, on the assumption that lack of interest might manifest itself in lower grades than would be expected of pupils with reasonable Academic Aptitude scores, Aptitude records of these classes were reviewed. Standards had to be established for each subject area and each grade level. Charts were prepared to show the range of abilities exhibited by students earning averages of A, B, C, and D. Names of those who, according to these charts, could make better averages in at least two subject areas, were listed for comparison with the other data.

From these three sources, one hundred pupils were selected for interview. These were the pupils who not only seemed to be working below capacity in at least two academic subject areas, but also showed lack of interest according to the questionnaire answers and/or teachers' opinions. The following table shows the number of pupils interviewed in each class:

Grades:	**7**	**8**	**9**	**10**	**11**	**12**	**Total**
Boys	7	10	10	5	13	4	49
Girls	4	9	8	9	15	6	51

The interviews lasted about twenty minutes and concerned the students' likes and especially dislikes as shown by the questionnaires. The question, 'Why?' brought out many answers for strong dislikes, lack of interest, and nonparticipation in classwork and assignments. Detection of mis-evaluations was the main purpose of the interviews, and careful, almost verbatim, notes were taken. These were reread and classified the same day. The majority of students did not know the interviewer personally and, after assurance that no information would go into their school records, appeared to feel free to make statements they might not have made to their regular teachers.

A list of the classifications of mis-evaluations used in this project is given here, with examples of students' replies. The sequence has no implications. Very often a response involves several mis-evaluations. The method of classification was determined partly by the results of the first few interviews.

Allness

When a student says, "I already know enough civics to get along in life," one can readily see that there is a degree of certainty in this attitude — a feeling that he knows all he will need. Other examples are: "I'll have no use for grammar." "In history we study the same thing over and over again — I know all

about those things already — we studied them in grade school." "What good is all that stuff? I'll probably end in the mill like my dad anyway."

Failure to date

Such statements as "I just can't get mathematics," lump together every semester's experience with some phase of mathematics under one category — mathematics — and the attitude is then applied to every phase.

Instead, the student might have said, "I did not get a certain unit in mathematics during a particular semester, under a particular teacher." (See Identification.)

Intensional orientation

This mis-evaluation seems to overlap with many others, but for the most part, it denotes verbal, 'surface' reasoning. Some pupils were so anxious to give an answer that, without hesitation, words came. When asked to explain what they meant, they were at a loss to extensionalize. For example, "The word looks hard" (*Trigonometry*). "History is easy — it's all in the book and all you have to do is memorize it."

Inferences versus 'facts'

Closely related to the above, is the confusion between statements of 'fact' and statements of inference. Many high school students plan their programs on the basis of personal reactions of their friends, which they do not recognize as such. There is therefore bound to be a lot of indecision and changing of programs after the first week of school and they have sampled the course. Every subject in the curriculum was called 'hard' by someone and very few added, 'at least it was hard for me.' One student said, for example, 'Geometry and trig are like math only a little harder, aren't they?'

Over-verbalization

The tendency to over-verbalize is akin to the two semantic errors mentioned above. Perhaps our stress on immediate responses in the classrooms, as on making quick decisions, may have something to do with this common habit. This tendency was a little more difficult to detect. Some who ordinarily maintain a steady stream of conversation between and during class periods, who verbalize about "everything and anything," said very little in the interview. Also, one may be over-verbalized talking to oneself, yet appear quiet.

Ventriloquizing

Whenever the pupil defended his statement with the opinion of his parent, teacher, or some sentence found in a book, it was classified as 'ventriloquizing,' a process sometimes referred to as the "voice of the 'Old Man'." Examples of this are: "All we need is the three R's." "It was in the book."

Identification

A simple illustration of this would be the transfer of an attitude to all teachers because of one experience with a particular teacher, or the fear of all dogs because of one dog. Some students said, "If it has anything to do with numbers, I don't like it." "All math is the same to me."

Projection

Here the term denotes an attitude that words and objects have certain qualities that make them 'good' or 'bad,' etc., disregarding the fact that it is our nervous system that applies a standard to them. "This is beautiful" should be accompanied, at least to oneself, by the phrase, "to me." Many statements such as the following were heard about almost every subject in the school's curriculum: "Science is boring." "The teacher had crazy ideas." "History is so dead — it's dry stuff."

Two-valued orientation

Such a statement as, "School teaches you right from wrong," was common. In answer to the question, "Do you like to make good grades?" a very common answer was, "Yes, because I don't like to fail."

Interpretation of Data

Upon classification of statements made in the interviews, an attempt was made to answer the following questions:

1. Do these mis-evaluations have any relationship to ability as measured by Academic Aptitude tests?
2. How do mis-evaluations vary with respect to amount of schooling?
3. Do more mis-evaluations appear among those who dislike the greater number of subjects?

Charts were made showing the relations between aptitude test scores and percentage of pupils in each quartile classification who showed evidence of the

nine types of mis-evaluations listed. These tabulations would seem to indicate that disinterested students, *regardless of ability*, have attitudes based on many mis-evaluations which affect their academic performance.

To answer the second question, a chart was prepared showing percentages in each school grade for each of the types of mis-evaluations. It was noticed that, generally speaking, mis-evaluations increased with the number of years in school.

The students themselves seem to become more rigidly convinced of their generalizations as they get older. Some seem to work out fancier ways of repeating their generalizations. Possibly this appears to be so because they are allowed more selection of courses in high school, and they can therefore conveniently avoid taking a subject, which, if taken, might change their generalization.

The third question was somewhat more difficult to answer. Of the total interviewed, about one third said they disliked subjects in at least three areas of the four — mathematics, English, social science, and science. Of these, 18% were in grades seven and eight, 35% In grades nine and ten, and 42% in grades eleven and twelve. This gives a rough picture of an increasing number with experience.

Classifying the students in two groups — those who disliked two or less subjects, and those who disliked three or more subjects — the latter group showed a slightly higher total percentage of misevaluations.

On the other hand, in some interviews the student seemed to have 'feelings' unexpressed verbally, which therefore were not integrated with the analysis of verbal responses. For example, those students who were failing in many subjects often had less to say. There appeared almost a self-blame, a pervasive unverbalized feeling of guilt and defeat which prevented him from saying "why" — only "It's just me."

It must be remembered that these conclusions are based on immediate answers given by one hundred students and are therefore only as good as this sample, limited by the short interview. Variable factors such as the time of day, the class from which the student was called, the fact that on different days it sometimes takes longer to 'warm up,' etc., were not considered in the data.

General Semantics Course

Another part of the project involved re-education. For this purpose twelve students were chosen who varied in their school problems and had difficulties with several subjects. Three were in grade 9, four in grade 10, and five in grade 11. They had in common that they were apparently not working to capacity in

at least two academic subjects, and that their mis-evaluations seemed to center around confusions between statements of 'fact' and statements of inference, and failures to date and index. These twelve met for eleven fifty-minute sessions preceding the Christmas vacation.

I introduced a few principles of general semantics, emphasizing differences between inferential and descriptive statements, map-territory relationships, and the three extensional 'working devices' — indexes, dates, and *etc.* Discussion of common occurrences in the school day was encouraged.

Results of Re-education

The pupils taught general semantics were rated for participation and understanding shown. This rating was further supported by a subjective test given following a review session upon return from the two-week vacation. In the test they were asked for examples of various mis-evaluations, to see what they retained at least verbally. The results of these two measurements were in relative agreement.

Two comparisons were made for detecting improvement in other classwork. Rating sheets, filled out by their teachers before and after the course, showed that four improved in participation (as shown by initiative in asking questions, initiative in contributing to discussions, interest in improving their daily assignments, etc.), seven had the same rating, and one worse. These data did not, however, agree with the changes in grades. The student who did best in my course in general semantics made the greatest improvement in grades, while the one at the bottom of my list made lower grades than usual. Of the twelve, two improved their grades in one subject, five in two, three in three, one in four, while one showed no improvement. These data include grades from December through the following June.

Interviews with these students in June revealed a few possible explanations for these improvements. Some could not analyze their situations but told of other applications they had made of the general semantics course. One girl had previously failed to turn in assignments because she was never satisfied with their quality; she feared that she would get failing marks and her classmates would think she is 'dumb.' She realized the inferences she had made and improved greatly. Another feared mathematics and 'knew' she could never understand it. By the end of the year she improved from a *D* to a *B* and said she liked it. Several had not recited in class because they believed others would laugh at their answers. They gained more confidence and said they enjoyed listening in class and trying to distinguish statements of 'fact' from inferences. Several said they began to get along better with friends and at home. One stated that she

found it easier to listen in class and retain what she heard and read. One found that she 'thought through' what she was going to say before raising her hand. In general they all seemed a bit more confident and interested in improving their grades.

Conclusions and Other Outcomes

The exploratory nature of this project lends itself to evaluation of more than the results of the procedures alone. Because there were no similar studies to consult for method, experimentation was necessary. In this sense it could be considered mainly as a descriptive pilot study.

Motivation

As nearly as one could measure achievement in the short general semantics course to which the students were exposed, it would seem that those who showed interest and did the best work also improved their grades in other school work. It offered them an indirect way of getting interested in other classwork, especially because they were asked to make observations of human behavior and speech habits to illustrate the principles discussed. It gave them something to listen for.

One of the interesting things about general semantics is that after one finds and shares with others a number of examples among his friends, he begins to notice his own behavior. The time when this happens varies with the individual. High school students seem to be quite anxious to find a means to the solution of their personal-social problems, and will cooperate easily once they see a slight possibility of help. In fact, they seem to get impatient with anything on a theoretical level alone and are anxious to get examples and to take action. Many problems were revealed by their contributions and questions, such as, "How *do* you control a temper?" In order to cover the lessons planned, the amount of discussion was kept under control. But attention was given to discussion especially when they made observations on their own that pertained to their school problems. Such analysis was not forced, however, for the purpose of interviewing them after the course was to see how well each could apply the principles to his respective school problems on his own.

Guidance

In the process of interviews, certain advantages of general semantics for counseling purposes became evident.

1. General semantics provides both the counselor and counselee with a common, neutral language — neutral in that it utilizes terms less loaded with emotional experiences. It makes it possible for the counselee to talk about immediate minor problems, while teaching him a method he may later apply to his major ones.
2. It often eliminates the necessity for probing into deeper problems, and the resulting loss of self-confidence. The counselee likes the feeling that he is being given a method by which he himself will be able to think through some things he might not like to reveal to others.
3. Upon acceptance of the principles of general semantics, interpretations of one's problems made in this neutral language, whether arrived at non-directively by the counselee, or by the counselor, are more likely to be accepted. The danger of rejection of an interpretation given by the counselor, before the counselee is ready for it, is eliminated.
4. General semantics is a teachable method of extensional thinking which appeals to most people, and especially adolescents. It presents little or no problems in rapport.
5. The counselor can also benefit by such reorientation. The dangers of labelling a counselee are brought to our attention often. The counselor cannot have keen understanding of and insight into a person's problems if he does not know how to keep still inside and listen with a sincere desire to enter into the counselee's frame of reference.

This approach is not without its limitations. In the case of an urgent problem, it is sometimes impossible to take time out to teach even pertinent principles of general semantics. At the same time, unless the counselee is willing to cooperate and put forth the necessary effort, discussion of problems might bring little results, for the counselor might be inclined to impose his method of thinking and thereby sound as if he were preaching.

Comments on Method Used and Recommendations

During the course of this project, many problems were encountered, some of which might have been solved differently in light of the end results. Much more could be gleaned from the interviews if more time could be taken. In addition, perhaps isolation of a problem, such as extreme fear of mathematics, self-consciousness in the classroom, reading difficulties, or dislike of a particular subject area, would reveal similarity in mis-evaluations. In other words,

limiting the ground to be covered would be advisable, but these possibilities were difficult to anticipate without a general over-all picture.

It would be interesting to interview the interested students who seem to be working to full capacity. The approach would be different, and perhaps more difficult. In a number of cases, where the student claimed he liked a particular subject, the question, "Why?" usually produced the answer, "I don't know; I just do." There was not much hesitation with reasons for disliking subjects, however.

In the second part of the project, the short course, more information as to changes of attitudes might have proved helpful. The rating sheet filled out by the teachers was perhaps no more objective than an anecdotal record or a page report from the respective teachers, before and after, describing the student's part in the group. Here, again, if the students could be selected on the basis of the subject disliked, or some other difficulty mentioned above, and also more specific common mis-evaluations, more relationships might be seen. Another problem, however, would have to be met — if too many of these students were members of the same mathematics, history, English or science class, a shift in position would be more difficult to discover. Such problems would be lessened by using a larger school.

It would seem that having a control group would be more convincing. This would involve finding twelve other students who would have many characteristics in common with the experimental group.

Considering the tremendous individual differences encountered, a perfect matching would be hardly possible, for one would have to consider abilities, interests, likes and dislikes, grade level, age, neuro-semantic environment, etc. These variables would have to be fixed. However, the use of grades to measure change, without a control group, does have some meaning, for grades indicate position in a group. A teacher is more or less governed, both by school policy and by experience, as to the distribution of *A*'s, *B*'s, *C*'s, *D*'s, and *F*'s, so that generally a change of grade in one case displaces another. The important thing, I believe, is not to let the teachers know which students are under observation, since it may influence their expectations, judgment, etc.

The teaching of general semantics could be modified to cover fewer points more thoroughly, and include aspects more pertinent to the mis-evaluations common to the group. Instead of having eleven consecutive sessions, it may be advisable to spread these over a longer period, and to have individual interviews with the members when requested. Perhaps going into the individual problems and following through after the course would throw more light on the process of changing an attitude.

When studying those pupils who were not working to capacity, an assumption was made — that an Academic Aptitude score is the measure for this purpose. It would be interesting to see if this score might be changed through the study of general semantics. On the other hand, the frequency of such statements as, "She may have a high I.Q., but absolutely no common sense," might justify the development of a 'semantic' intelligence test.

It was not the purpose of this paper to prove anything. This field is new and requires much investigation in order to formulate hypotheses for further studies. Such an exploratory project has revealed to me avenues for many possible researches in the actual application of a theory.

From the *General Semantics Bulletin Nos. 8-9*, Winter-Spring 1952. Summary and abstracts from a Thesis presented to the Graduate School for M.A. degree, School of Education, Northwestern University, 1949. Ms. Leskow taught in Gary, Indiana.

———

"The aim of education is the condition of suspended judgment on everything."
— George Santayana

"If we value the pursuit of knowledge, we must be free to follow wherever that search may lead us. The free mind is no barking dog to be tethered on a 10-foot chain." — Adlai Stevenson

GENERAL SEMANTICS METHODOLOGY IN COLLEGE ENGLISH TEACHING
Report of Results in a Freshman English Course at Syracuse University

Francis P. Chisholm

General Context of the Experiment

At Syracuse University during the academic year 1940-1941, we have based the course in English for freshmen upon introductory training in general semantics. In this report, I will attempt to formulate some of the 'results' of this experiment, and to report some of the techniques employed to train students to analyze language in its context and to become aware of word-fact relationships. Our experiment involved approximately fourteen hundred freshmen and twenty instructors, and hence represents a rather large scale application of methods suggested by general semantics, under the classroom conditions of a large university.

In such a large scale preliminary experiment, of course, there are too many uncontrolled factors for us to state that we have 'proved' any one definite hypothesis, nor indeed did we set out to do so. However, in the working out of the

course we planned, some very interesting results occurred. We believe that some of the changes in the 'attitudes' and orientations of the students are definite and important enough to be reported to this Congress.

At Syracuse, English I is a course 'required' of all freshmen in the University. The course is taught, in sections of thirty students each, by about twenty instructors. The selection of texts and a generalized statement of course content and 'aim' is made by a committee representing the department. However, in teaching practice each section is independent of the others and instructors have freedom and authority to select methods and to plan the actual content of the class hours to implement the general 'purpose' of the course. In the sections, students from all colleges and departments come together, and normally each section stays together all year — i.e. the freshman has the same instructor for both semesters. The sectioning is not done on any special basis of 'intelligence' or 'ability' in the first semester, so that sections generally form rather representative samplings of the University's Freshman class.

In the Syracuse University curriculum, English I is considered a 'tool subject' rather than a 'content' course. In other words, our staff is supposed to teach the freshmen to read and write. Like most other college English departments, we have in the past used a variety of methods and of textbooks, and our instructors have differed about what the English course 'ought' to be. Very generally, our practice has been to concentrate on the study of language and on reading and writing problems in the first semester, and on the study of 'modern literature' during the second.

In this course, we wanted a method which would be more efficient than the traditional techniques of instruction in grammar and usage and the traditional 'literary analysis' of essays, poems, etc., for helping students attain a 'balanced mental outlook,' a method of proper evaluation of situations, the 'cultured' and 'educated' liberality and efficiency which higher education is by some people supposed automatically to confer. These desired characteristics have been perhaps more frequently the 'ideals' rather than the 'results' of education as practiced by the humanities divisions of universities, partly, we felt, because traditional methods and content did not force the student to uncover and take account of the basic assumptions and identifications which he brought to situations. The work of Korzybski and others convinced us that a very hopeful suggestion for improving this unfortunate situation lay in teaching the student a general scientific attitude toward the language in which he formulates his problems.

For student difficulties in English are only partly a matter of 'bad grammar' and 'inadequate vocabulary.' Many students have a fluent verbal skill, and yet betray mis-evaluations and a complete lack of awareness of verbal traps. For

some of them, their linguistic habits, semantic reactions, patterns of behavior and 'thought' prevent a satisfactory adjustment to their new college environment. We could not expect to get 'good writing' nor 'intelligent reading' until they had got a certain maturity of evaluation. The training devices taught by Korzybski (training in consciousness of abstracting, delay of reaction, etc.) seemed to us to furnish a workable method of accomplishing the desired redirection in student attitudes — in other words, for carrying out the ancient 'ideal' of university education, teaching students 'how to think,' how to make reading and writing a cooperative, enjoyable and growth-promoting experience. (1)

We set up the course according to this general plan: a semester's work in analysis of language, using Hayakawa's *Language in Action* (2) as a basic text, supplemented by explanations and examples by the instructor; continuation of the work in the second semester, with more discussion and more complex examples, mostly in modern literature.

So much for our 'purposes,' 'aims,' etc. We made no special effort to 'plan a course' in detail. Instead of an English course with a set content of 'subject matter,' we thought of the year's work as the task of changing the students' reactions to what they read and hear so that they would be able to evaluate properly language as they use it and as they read it. This approach to the students and to the problems required a considerable shift in orientation and methods by many of the instructors themselves, and we decided to let the working out of the new course suggest procedures as it developed, rather than to set up procedures in advance. In retrospect, it seems that this opportunistic approach was the wiser one.

Classroom Procedures

Students, like the rest of us, often react to (and write about), not the 'objective' situation itself, but rather some verbal abstraction from that situation which they treat *as if* it were the extensional situation itself. Some of them do not realize that some one else may make a different abstraction: they feel that 'any normal human being' would evaluate exactly as they do in that situation. Now if reading is to add to the student's 'wisdom,' it must be a vicarious participation in experiences and attitudes not his own. But this widening of experience is exactly what is prevented by the language habits just indicated. Of course this same confusion between map and territory — 'my own' abstraction and empirical fact — also underlies prejudice, 'muddle-headedness,' maladjustment, etc. What we wanted to do was to go to the neurosemantic mechanisms, that is, to change the students' identifications and general attitudes toward language. If

this could be done, we felt that the student's writing would become more effective and his social evaluations more mature.

The easiest symptom to show by actual example is simple 'misreading.' A sentence is not examined to find what 'territory' the author's 'map' represents; it is assumed that the author is using the words exactly as the student may happen to use them himself. Many students seem unaware that their own (unanalyzed 'emotional') interpretations of a word are not *everybody's* interpretations. Hence they will tend to assume that what they read from a book is what 'it says.' I can give a number of examples which are not exceptional but rather the usual reaction in an untrained class. Robert Frost has a poem called "The Lone Striker," a simple, rather obvious poem in which a workman is forced to wait outside the factory gates for half-an-hour as a penalty for being late. Frost, describes him waiting in the line, "*He stood rebuked and unemployed*." Not looking at the context (which makes it clear that his pay is to be docked half-an-hour), most of the class wrote that this was a poem about *unemployment*, men displaced by machines, etc. Some of them wrote very eloquently on this topic, which is not mentioned in Frost's poem. In conferences, with their analysis *and* the poem in front of us, the students saw what they had done. Some of them were bewildered, "But is Frost using *unemployed* correctly? Doesn't it mean not having a job?" (This is the 'depression generation' speaking!)

Another clear case of the same attitude toward words (one word — one meaning) occurred in one section in an article about "Roosevelt" (Teddy): many students immediately read in "FDR" [Franklin Delano Roosevelt — Ed.] and were considerably baffled by the characteristics ascribed to "Roosevelt" in the article.

What we have here is a habit of reading in which the context (even the purely *verbal* context) is neglected. This habit has been reinforced and given 'prestige' by the attitude of uncritical acceptance toward the authority of the dictionary taught in many high schools.

The most important procedure for 'cure' for most students was simply to make the student realize that he had neglected the context — i.e. was not conscious of abstracting. This realization made many of them feel a little 'silly' and alert not to do it again, as well as receptive of an explanation of how they came to do it. (It is very important, of course, to make *him* say he is silly; not to say it yourself.) We rubbed in the lesson with class exercises showing how the 'same' word could convey very different 'meanings' in different contexts. To many students this seemed a refreshing discovery and they readily added to the examples of modification by context which the instructor supplied. It is important that throughout the semester statements, etc., should never be considered ex-

cept in context, because students easily fall back into the habit of calling statements 'absolutely right' or 'absolutely wrong.' This work tended to direct their attention from words to the *situations* the words talked about.

When the article being read dealt with higher order abstractions (Communism, Democracy, etc.) reading was still more a matter of *reading* in the reader's former associations, and reactions to the words. We found that it remained pretty much just that until the students had had considerable training in translating these abstractions 'downward' on the 'abstraction ladder.' (3) Their whole training in considering high order abstractions had been in the direction of finding out what these 'really were' — i.e. of learning and defending or attacking some definition. The most successful procedure that we found for changing this orientation-by-definition was to insist upon the student's finding out what behaviors, relationships, etc., the author was labelling with his abstraction, and what background premises and assumptions were implied by his statement. This practice of considering the context and requiring analysis before agreement or disagreement introduced a check or delay which made the student aware of his own signal reactions to words.

The same attitude toward words shows up frequently in the writing of those students who feel that it is the reader's duty to understand 'what I meant.' Sentences, judgments, etc., whose context is private and unexpressed are written down, the problem of audience understanding not having been at all considered. What we tried to do to remedy this was to promote an awareness of audience: for instance, one instructor had his class write successive papers on like subjects for different audiences (their parents, their 'pals,' etc.). In conferences over the papers written, it was possible to point out suppressed contexts, unconscious assumptions, etc. By the end of the semester most students were much more aware of the necessity of *communication*, of 'getting something across' to their reader, than they had been previously. Of course, in this work, each student is an individual problem, the more so since frequently cryptic and 'private' writing is a symptom of considerable psychological turmoil.

The second problem, upon which classroom attention was concentrated, was promoting awareness of word-fact relationships by requiring students to write a considerable amount of verifiable 'report language' prose: that is, describing happenings in language from which they attempted to exclude *their own* judgments and inferences. This proves extraordinarily difficult for many students; a few of them were never able to do it, and some had to re-write their original attempts five or six times.

The report-writing exercises brought forth a variety of student reactions. To begin with, many students felt the first exercise 'silly'; that is, too easy, rather below the dignity of college men and women. When they couldn't do it,

they were either puzzled and interested, or angry. Some continued with violent resistance to the whole exercise: these were either students having facility in 'flowing' language, an academic investment which had always paid them well, or students with deep-rooted intensional orientations,

Besides these special cases, the rest of the class were rather honestly puzzled, not being able to see why 'glamorous' or 'sophisticated,' for instance, were not report-statements. The second group of reports showed interesting unconscious evasions of the task of writing strictly verifiable statements. This exercise brought in a crop of 'reports' of sports events and of fraternity meetings, all couched in the ritual jargon of sports-writers or of 'secretaries.' Several other students 'refused' to report actual happenings, and gave accounts of wished-for-events, such as 'a perfect blind date,' which they later confessed to be fictional. Many students found it difficult to see why these were not classifiable as reports, and the discussions of this point ramified into class investigations of the social function of the language their pseudo-reports had been modelled upon,

Most important and most difficult to deal with of all the established language habits, we found, was the tendency to project stereotypes into the outside world and to deal with these fictions as *facts*. Students' first essays were full of generalizations about "the *average* student," "the *real* athlete," a "*true* patriot," etc. "*A real mother cherishes and loves her children*" wrote one of my students as a verifiable report of a happening. When this was questioned by the class, she admitted it was not report, but insisted that it was a valid generalization from experience, mothers who beat their children not being *real* mothers.

This point proved to be of prime importance. The intensional orientations of many students were expressed in just such confusions of 'what ought to be' with 'what is.' These orientations had been considerably reinforced by previous training by a certain kind of high school English teacher, to whom 'English' is supposed to teach the 'right' or 'pleasant' thing to say about literature, life, etc. Some students resisted violently realistic descriptions of their 'ideals.' The discussions which grew from points of this sort were very 'tricky' to handle, because some clever students were always ready to feel that they were being taught a good 'debunking' technique and nothing else.

Properly handled, however, these discussions were extremely valuable: they gave many students a sound notion of the nature and social function of ritual statements, directives, and 'ideals' generally. Without some such functional instruction, many students are able to take only one of two attitudes toward 'group-directive ideals' like, say, 'Democracy' — uncritical, blind acceptance of a slogan, or cynical rejection. (They behave in ways which might be called either 'fascist' or 'defeatist.') The discussions made many of them able to evaluate more maturely language-situations involving these 'ideal' statements, and to

learn to evaluate 'ideals' and directives in terms of behavior rather than of verbal definitions. The importance of this point is obvious at the present time when the nation is acutely conscious of the responsibility of citizens to achieve and defend democratic behavior.

The work with reports took much longer than most of our staff had thought that it would. We found, however, that it gave most students a sound notion of the difference between word and event, language and what language talks about. This work broke up intensional orientations, and by making the students aware of language as a functional 'tool,' forced them to consider the *effect* of statements and the characteristics of their own verbalizations.

The essays and 'themes' immediately began to have a greater content of extensional detail — that is, they began to be 'better writing' even in the humanistic sense. Technically, students began to write inductively *up* to the judgments they wished to express; i.e. they spread the facts before the reader and then generalized and inferred. When we got this far with them, we began to feel that we were accomplishing something, for almost all the students had had a specific training in high school to start with an 'introduction,' a direction which many took to mean "begin with a large and unsupported generalization."

We felt too that we were getting somewhere when we noticed the disappearance of those empty, abstract discussions in the writing of which some students achieve in high school an astounding facility. There was a drastic decrease in mere verbalism written in response to an 'assignment.' We were especially encouraged by this, because every English teacher has the problem of dealing with the slick, grammatically correct, 'padded' essay.

Still more important probably were the different lines of class-discussion into which the work with 'reports' broadened out. First, of course, it led directly to discussion and lecture-demonstrations of different levels or orders of abstraction. The instructor could use the adapted diagram of Korzybski's structural differential printed in *Language in Action* to follow up the work in 'reports' with an explanation of the differential and its importance and use. This also provided an opportunity to introduce indexing, dating, the etc., negative premises, etc.

The third classroom concentration was directly upon intensional and two-valued orientations. Here our method was largely to analyze in context verbal utterances, cartoons, etc., which showed that the writer was projecting his intensional definitions upon a group or class of individuals. Here cartoons were particularly effective. We began with quotations representing rather violent prejudices, over-simplifications, etc. The student's whole previous training led him to 'agree' or 'disagree' with these statements, to label them 'right' or 'wrong.' The analysis-in-context procedure forced him to study them first before giving

his opinion. He had to state first how the language was being used — what patterns of value, 'ideas,' stereotypes, etc., the writer seemed to hold, what the writer's semantic reactions (pleasant-unpleasant, acceptance-rejection, etc.) to key-words seemed to be — and *only then* was the student allowed to state his judgment about the statement. Thus during the exercise he had to practice delay of reactions and evaluations based on a more thorough understanding of the sentences. Students came to consider and study statements and 'ideas' which previously they would have dismissed, seeing what premises and assumptions the statements involved, and noting how they operated in a social context.

It was agreed by most instructors that more students benefited from these exercises than from any others. One very common student experience made it easy to drive home the discussion of intensional orientations. Each student had brought with him a 'picture' of the 'college environment' he had expected to find: certain aspects of the actually existent college life he found were not 'what the picture predicted.' The resultant puzzlement presented the teacher with one of the most potentially useful experiences with which to work. This puzzlement, if only on some minor matter — the attitudes of instructors, the age of buildings, the conversation in sororities and fraternities, etc., — is a total-organism reaction wherein stereotypes and verbal 'wishful' description of the world have proved not to be the world, and the student welcomes as *relief* from his puzzlement the general semantics explanation of how he 'got that way.'

It is impossible within reasonable limits to discuss any great number of the procedures used in the course. Perhaps the examples given will be sufficient to indicate the kinds of exercises we used to promote consciousness of abstracting, extensional orientations, etc. Generally, we required students to write of situations in which they found themselves, or of other situations presented visually to them in pictures or cartoons, or more indirectly in literature. In so far as we could, we showed them in their own work evidences of two-valued orientations, signal reactions, arguments from definitions and verbal fictions, etc., which they themselves had written, and reinforced the lesson with explanations of the mechanisms involved.

Student and Faculty Reactions

It is extremely difficult to state unambiguously the 'results' of a single course upon students who are reacting at the same time to dozens of other stimuli in a complex environment new to them; the complexity is increased with our English I course by differences in personality, training, etc., of the various instructors, resulting in different emphases in presentation. Hence my statements of results and conclusions must be tentative and generalized. However, I have

checked my generalizations from my own observations against those of other instructors and those of personnel counsellors in the University.

Perhaps the most interesting statements of the results which I can present are those formulated by the students themselves. At the end of the course, we asked students to write a considered critique of the year's work, a frank statement of what use they had found it to be to them. Their answers were surprisingly definite.

First of all, the course was popular and students felt they had got their money's worth. A ten percent minority were violently hostile (of which more later); the rest reported in terms which suggested that they felt that the course was responsible for a new flexibility, ease of 'thinking,' and release from puzzlement and tension which they felt they had.

Secondly, most students felt that they had received a training which was not mere 'classroom stuff,' but which was applicable in their other studies and in life-situations. In other words, they felt they had received some training designed to integrate what they learned from all sources and to erase the unfortunate 'splitting' which many of them noticed between school-attitudes and life-attitudes, and between 'subject' and 'subject' in the school.

Thirdly, students felt that they could read better, could write better, and would never be so naively unaware of the dangers in language as they had once been. With most of them this confidence, I feel, was justified.

Here, for example, are excerpts from a few of these student analyses to illustrate the kind of statement upon which these three generalizations are built:

> After my course in semantics, when I hear a man labelled as anything, I try to take him as himself, not as a word with nasty connotations.
>
> On several occasions, I found myself misinterpreting what other individuals said. Their words meant something entirely different to me from what the speaker intended to convey. I caused many uncalled for arguments and disagreements. After I understood this, many of these incidents disappeared. I try to imagine what the other person means when he says something, in terms of his mind, not my own.
>
> I try not to project my prejudices, not to jump as I am directed by words like 'Jew' or 'Red.' I try to stop and analyze for a few seconds before I do anything.
>
> I have learned to be more critical, that is, not to just accept statements because I see them in print. I have learned not to be proud of being dogmatic. As a result of the semantic training, we are able to read with more comprehension of what the author wanted to say and with fewer signal reactions toward his

> words and form. For instance, I now read many 'poems' with enjoyment, although I once did not enjoy 'poetry.'
>
> This semantic study of our language has been a fascinating science. I had scientific training in chemistry and physics, but since these subjects are *classified* as sciences, I never extended the training to other subjects. Now, in any of my studies, when I make a statement, I try to think about it just as I would in the lab.
>
> This course was practical. It is one of the few courses which can be applied to every day living. I get into many fewer pointless arguments and I think we learn more from each other in bull-sessions and arguments.

I regret that it is impossible to give verbatim many more of these reports by students, because they are very suggestive to the teacher of what the students felt was the 'real meat' in the course. Perhaps they overestimated the extent to which they had gained skill in reading and freedom from signal reactions. But there was, all instructors agreed, an increasing tendency to check statements against the extensional 'facts' rather than to react to words alone. Of course, for some students there remained some situations in which they were 'emotionally' involved and in which the old word-patterns held true as if 'fact.' Although some students learned only the terminology of the system as used in *Language in Action*, many others seemed to be carrying over the method of evaluation into other life-situations. All instructors reported a gain in reading skill far greater than that produced by methods they had previously used. They also agreed that class discussions were more rewarding, because of greater student interest and cooperation.

Two important points of theoretical interest should be noted. In regard to class discussions, since most of them developed from analysis of statements, they generally represented co-operative attempts to understand the situation under consideration, and hence considerable forensic 'argument for victory' or for prestige was avoided. *Language was being used cooperatively rather than competitively.*

The other point is that there were practically no indifferent or disinterested students. The people who disliked the course did so thoroughly, and were violent in their statements of opposition. Almost all students went through a period of 'not liking' what we were doing, because our procedures were not what they had expected. "*Is this English?*" they asked. With most, this was succeeded by interest and, frequently, enthusiasm. A minority, as I mentioned above, remained belligerently hostile, generally because the new methods of procedure represented a threat to an accustomed writing behavior or because the intensional

orientations of the student were very deeply canalized neurologically so that any change was acutely painful. It is interesting for comparison to quote some of the essays of these students.

> Many students were disconcerted by Hayakawa's book because it introduced new ideas and college students did not want to be guinea pigs. College students do not like to give up their old ideas, they are very conservative.
>
> It has made many of us cocky and cynical. We exaggerate and enlarge upon the little we have learned to prove that we are being educated. Some of us question perfectly clear statements and have a permanent cynical and exaggerated suspicion of all statements.
>
> This course in Semantics did not do me any good. Except for understanding 'signal reactions' it was all Greek to me. I was prejudiced against it, because I wanted a course to teach me to read literature and I still read the same as always. The course was a loss to me, except I do have more fun reading the ads and figuring out their appeal.
>
> *Language in Action* was very interesting and true enough, but so what? The book's ideas have made little impression on me, in that I don't practice them, but that is my own fault. I 'have to learn' the stuff and this 'blocks my mind.' Since it's school work, I think it is bunk, even if I like it.

A report such as this obviously cannot 'tell all' about an experiment as large and as complex as ours at Syracuse, and with as many uncontrolled factors as ours had. I have attempted to generalize from a few of the observations we were rather sure about. Almost all our staff expressed themselves as pleased and satisfied with the conduct and the results of the year's work. The general feeling seemed to be that the teaching had been 'hard work' because of the necessity of gathering examples, situations, etc., for analysis, but gratifying, and instructive for teacher and student both, since the work focussed attention on personalities and situations rather than on codified 'subject matter.' The general semantics methods proved readily *usable* under classroom conditions. Most of all, we felt that the analysis of language situations had, for a gratifyingly large proportion of students, proved itself a 'moral' — i.e. a total-organismic — as well as an 'intellectual' discipline.

REFERENCES

1. Alfred Korzybski, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (Second edition; Lancaster, Penn.: The Science Press Printing Co., 1941).
2. S.I. Hayakawa, *Language in Action* (New York: Harcourt, Brace and Co., 1941).
3. Cf. Hayakawa's adaptation of Korzybski's structural differential in *Language In Action*, op. cit.

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Francis P. Chisholm was Instructor of English, Syracuse University, Syracuse, New York.

———

"That is precisely what common sense is for, to be jarred into un-common sense. One of the chief services which mathematics has rendered the human race in the past century is to put 'common sense' where it belongs, on the topmost shelf next to the dusty canister labeled 'discarded nonsense.'" — E.T. Bell, *The Queen of the Sciences* (quoted in *ETC* Volume 1, No. 2)

YOU CAN'T WRITE WRITING

WENDELL JOHNSON, PH.D.

THE LATE Clarence Darrow, while speaking one day to a group of professors of English and others of kindred inclination, either raised or dismissed the basic problem with which his listeners were concerned by asking, "Even if you do learn to speak correct English, who are you going to talk it to?"

What Mr. Darrow was contending can be summarized in the statement that the effective use of the English language is more important than the "correct" use of it, and that if you can speak English "correctly," but not effectively, it does not matter very much "who you talk it to." I agreed that day, ten years ago, with Mr. Darrow's contention, and I still do, but whereas ten years ago his remarks served to dismiss for me the problem of the teaching of English, they serve now, in a new context of experience, to raise that problem to a position of peculiar educational and social significance. For, like many others, I have come to take a serious view of the apparently astonishing discrepancy between the opportunity and responsibility of the teachers of English and the actual contributions which they appear to make to the efficiency and well-being of individuals and of society.

The point of view which I have to present with regard to this problem has gradually developed during the decade that I have spent, sitting near the end of the educational conveyer belt, helping to put certain finishing touches on the

human products of the scholastic mill. This is a way of saying that my experience has been chiefly with graduate students. When they arrive in the graduate college they have had, as a minimum, sixteen years of formal education. During practically every one of those sixteen (or more) years they have undergone some kind of training specifically designed to enhance their skill in the use of the English language. In spite of this, there falls upon me, as upon other directors of Masters' and Doctors' dissertations, the task of teaching graduate students how to write clear and meaningful and adequately organized English.

What are the linguistic shortcomings that the teachers of English seem unable to correct? Or do they in some measure nurture them? First of all, it is to be made clear that grammatical errors are not particularly serious. Whether or not they find anyone to "talk it to," the majority of graduate students have been taught most of the rudiments of "correct" English. In fact, it appears that the teachers of English teach English so poorly largely because they teach grammar so well. They seem to confuse or identify the teaching of grammar with the teaching of writing. In any event, what they have failed to teach my graduate students about writing is not grammar. It is skill in achieving factually meaningful statements, and skill in organizing statements into an order consistent with the purposes for which the statements are made. The students have not been taught how adequately to achieve either precision or systematic arrangement in the written representation of facts. This can be stated in another and more significant way by saying that they have not been taught how to use language for the purpose of making highly reliable maps of the terrain of experience.

These students exemplify the simple fact that although one may have learned how to write with mechanical correctness, one may still have to learn how to write with significance and validity. One of my friends, who is a particularly astute investigator of the psychology of reading, has stated essentially the same problem by saying that the one place in which a child is not likely to learn to read is the reading class, for the simple reason that one cannot read reading. One can only read history or geometry or biology, etc. If the child reads such material in the reading class, then it is difficult to see how the reading class differs appreciably from the classes in history, geometry, and other subjects. If the child does not read such material in the reading class, then the reading class must differ from these others, but in a puzzling and perhaps disturbing way, for it may be that the reading teacher is actually making the amazing effort to get the child to read reading.

In the teaching of writing, or any other of the language skills, the same problem appears. One cannot write writing, any more than one can read reading. One can only write, just as one can only read, history, or geography, or

physiology, or some other such subject about which writing can be done. One can, of course, write about writing, but what one writes about writing will have little, if any, significance except insofar as one writes about writing about something else. We have to deal here with a very general, and a very crucial, problem. What is true of reading and writing is true, also, of speaking, or drawing, or painting. It is true of mathematizing. It holds for any kind of symbolizing. Just as one cannot, with significance, read reading, or write writing, or speak speaking, except insofar as one reads about something, or writes about something, or speaks about something, so one cannot, with significance, symbolize symbolizing in general except insofar as one symbolizes the symbolizing of something.

II

It seems clear to me, as I attempt to analyze the writing difficulties of graduate students, and as I ponder over my own experiences as a student of English, that these considerations, sketched immediately above, are crucial. The teacher of English appears to attempt to place the emphasis upon writing, rather than upon writing about-something-for-someone. From this it follows quite inevitably that the student of English fails in large measure to learn the nature or the significance of clarity or precision and of organization in the written representation of facts.

He learns grammatical correctness reasonably well, because that is emphasized. But so long as the student's primary anxieties are made to revolve around the task of learning to spell, punctuate, and observe the rules of syntax, he is not likely to become keenly conscious of the fact that when he writes he is, above all, communicating. If he is to learn to communicate effectively, he must realize that his first obligation to his reader is not to be grammatically fashionable, but to be clear and coherent. One does not just communicate, one communicates something to someone. And the something communicated is not the words used in the communication, but whatever those words represent. Moreover, the degree to which there is communication depends precisely upon the degree to which the words represent the same thing for the receiver or reader that they do for the sender or writer. And the degree to which they do is an index of the clarity of the communication or written statement. Thus, clarity can be measured, not just "felt" or "appreciated," but measured, in terms of the ascertainable agreement between writer and reader, and among various readers, as to precisely what the words of the writer represent.

My graduate students have not been taught this. They write as if they had been trained to observe a principle of caveat lector. Such a principle, strange as

it may seem, is championed, in one form or another, by certain teachers of English. Mr. Cleanth Brooks, Jr., writing on the subject of communication in poetry in the journal, *American Prefaces*, in 1940, expresses this curious point of view in these words:

> The theory of communication throws the burden of proof on the poet, overwhelmingly and at once — the reader tells the poet: here I am; it's your job to get it across to me — when he ought to be assuming the burden of proof himself. Now the modern poet has thrown the weight of responsibility on the reader.

I have quoted Mr. Brooks because he has succeeded in stating with unusual conciseness this strange notion that the writer is properly under no obligation to be communicative. I do not wish, on the other hand, to be understood as saying that a reader has no obligation to try to meet a genuinely original (and therefore difficult) writer half-way, for obviously many writers and poets, dissatisfied with the clichés of their time and trying to create new ways of feeling (i.e., to re-canalize the reader's semantic reactions), must necessarily rely upon the reader's willingness to accept a revised vocabulary of an unfamiliar set of symbols. But this is a problem only in extremely advanced levels of artistic composition. In undergraduate instruction, even to imply that a writer has no obligations to his readers is to become, whether one wishes to or not, an advocate of obfuscation.

Such advocates of obfuscation apparently teach fairly well, if it is they who have instructed my graduate students. They have never learned, so far as I can see, to take the reader seriously into consideration. They do not, to be sure, artfully avoid clarity; they artlessly fail to achieve it. The contention that in writing they are communicating, that they are addressing a reader, simply strikes them as a novel point of view. They do not rebel against it; many of them just don't understand it.

This basic notion of communication, however, is not extraordinarily difficult to explain, and as it begins to sink in, and when the students have seen a few demonstrations, not of the reading or criticizing of communications, but of the process of communicating by means of writing, they are at least prepared to understand that there are techniques of clarity. Moreover, they are able to understand that these techniques have something to do with effectiveness in writing — unless one means by writing a gyring and gimbling in the wabe of literary slithy toves, or unless one believes the excuse offered by frustrated literary midwives: namely, the "only-God-can-make-a-tree" theory that effectiveness cannot be taught at all. But this definition of "writing" and this theory of "effec-

tiveness" have practically nothing to do with the kind of writing that involves communication. For communication is achieved by virtue of clarity, as this is defined in terms of agreement between writer and reader, or among various readers, as to what the writer is referring to. The ability to achieve clarity in this sense, and thus communicative effectiveness, is a tree that others besides God can make, at least in a rough fashion.

III

This discussion is not designed to take the place of a textbook for the teaching of effective communicative writings, but it is offered in the hope that a brief statement of a few simple principles upon which such writing is based might serve at least to raise the question as to why these principles are not more adequately taught by English instructors.

The first of these principles has already been given in the statement that clearness depends upon, and can be measured in terms of, the degree of agreement between the writer and his readers as to what the words of the writer, represent. Simply by striving for a high degree of such agreement, the writer discovers, in some measure, his ingenuity in achieving it. He discovers the usefulness of conditional and quantifying terms, the confusion created by leaving out significantly differentiating details, the degree to which the meaning of a term varies from context to context, and the kinds of differences he must allow for among his readers' habits of interpreting words. He learns to rely less on the dictionary and more on the linguistic habits of the people for whom he writes. He discovers that literary posing, pleasurable as it may be, usually can be enjoyed only at the expense of effective communication — that Chesterton's paradoxes or Paul de Kruif's chronic astonishment are more titillating than informative. He discovers that there are various levels of abstraction, and that if he goes systematically from lower to higher levels he can use so-called abstract words and still be reasonably clear.

Above all, perhaps, he discovers the basic significance of order, or relations, or structure, or organization. This matter of structural relationships has wide ramifications, and no writer ever exhausts it, but the student quickly grasps some of its more obvious aspects, if he is striving for agreement between himself and his reader. It does not take him long to understand that the organization of what he writes should correspond to the organization of what he is writing about if the reader is to follow him readily. The graduate students with whom I work frequently have difficulty organizing their descriptions of experimental techniques or procedures, and I have found that it is more helpful to refer them to a cookbook than to a textbook on composition. By examining a cookbook

they see at once that the organization of a description of procedure is determined simply by the order of the events that make up the procedure. First you do a, and then b, and then c, and you write it in that order because you do it in that order. This simple principle of order is fundamental in practically all descriptive, narrative, and expository writing, and it is obvious to anyone who is attempting to be considerate of the reader.

One might suppose that graduate students would know this, but in spite of the years they have spent in English courses most of them seem not to have learned much about it. The more significant fact is that, as a rule, they learn quite readily to apply this simple principle, once it is clearly explained and demonstrated to them. In this case, certainly, one can make a tree that either God or the English teachers forgot to make.

One aspect of organization that seems to have eluded practically all graduate students is that involved in the making of transitions. Even those who have been taught how to lay beads in a row have not been taught how to string them. Just as the order of what one writes is determined by the order of the parts or events involved in what one is writing about, so the ways in which transitions are made in the writing are determined by the ways in which the parts or events are related in the realities one is describing, narrating, or explaining. The ability to move from one sentence or paragraph or chapter to the next, in such a way as to blend them into a unified whole, is largely dependent upon an understanding of the reasons for going from one to the next, of why one statement should follow another instead of the reverse, of why one should say, "It follows, then," rather than "But." And these reasons are found in the character of the relations existing among the details of that about which the writing is being done. This becomes obvious to one who is not trying to write writing, but who is attempting, rather, to write-about-something-for-someone.

Another principle underlying communicative writing is that clarity is a prerequisite to validity. It is to be considered that statements that flow beautifully and are grammatically superb may be, also, utterly devoid of factual meaning, or meaningful but vague, or precise but invalid. For writing to be effective, in the sense in which I am using this term, it may or may not be grammatically correct, but it must be both clear and valid. It can be clear without having validity, but if it is unclear its validity cannot well be determined. It must, then, first of all, be clear; it must be that before the question of its validity can even be raised. We ask of the writer, "What do you mean?" before we ask, "How do you know?" Until we reach agreement as to precisely what he is writing about, we cannot possibly reach agreement as to whether, or in what degree, his statements are true.

Only to the extent that the various readers of a statement agree as to the specific conditions or observations required for ascertaining its validity, can the question of its validity have meaning. And the extent to which the readers of the statement agree on these conditions is, of course, indicative of the extent to which the statement is clear. If a statement is such that its readers do not agree at all as to how it might be verified or refuted, the statement may be "beautiful" or "rich in meaning" or grammatically irreproachable, but it is also, from the point of view of scientific courses such as I am teaching, nonsense. It cannot be demonstrated to be valid or invalid, and is meaningful, therefore, to its author, possibly to his English teacher, and perhaps to his psychiatrist.

My graduate students have not learned this, either. They show this in a particularly disturbing manner when they first attempt to state the topics or problems they propose to investigate in undertaking their theses. They quite characteristically propose problems which preclude the possibility of clear discussion. They propose questions for investigation, for which they desire to obtain precise answers, but which are so stated as to be unanswerable. Apparently they have never been taught that one cannot get a precise answer to a vague question — that the terminology of the question limits the clarity and thus the validity of the answer. Many students are so befuddled on this point that they do not recognize any relation at all between clarity and validity. They actually assume, for example, that they can ask, "What causes personality maladjustments?" without specifying what they mean by "causes," or by "personality," or by "maladjustments," or what observations one is to make in order to comply with their definition of "what." Many of them appear to have been taught that to eliminate the vagueness of a question or statement is to destroy its "richness of meaning" — that for a statement to be "full of meaning" it must not mean anything in particular!

Even though they have been so taught, and come, therefore, to the graduate college quite untrained in the writing of valid statements, they can be taught, to a considerable degree, to gauge the validity of what they write. They can be trained to do this by being trained, first, to write clearly. For when a statement is made clearly — when there is reasonable agreement among its readers as to what it represents in the realm of fact — its validity can be judged, or a procedure for determining its degree of validity can be devised.

In summary, then, what graduate students, as I know them, have not been well taught — and what, in my judgment, their English instructors should have been able to teach them, because the students do learn readily — is the ability to write a clear, organized, unified, and valid document. They have been made familiar with grammar, for the most part, and they have picked up a few tricks

of literary flavoring. The grammar can be used to advantage; most of the literary condiments have to be chucked.

IV

There appear to be three main reasons for the English instructors' failure. The first is that they do not appear to utilize to any considerable extent the principle of teaching by example. They tell the student how to write and how not to have written, but they don't, as a rule, do any actual writing for him or with him. They show him examples of what has been written, but no examples of something being written.

To try to learn to write by reading literature that has already been written and thoroughly jelled, instead of by observing the actual writing of literature, is much like trying to learn to bake a cake by eating one, instead of by watching the baker make a cake. And if you hold the writer's pencil you learn faster, just as you do if you hold the maker's mixing spoon. It is the old, old principle of teaching by example, and what the teachers of English forget is that there are no examples of writing in the grammar book or the anthology; there are only generalized blueprints of statements yet un-written and examples of something already written — cakes that were baked yesterday. The teacher herself has to provide the examples of writing, to demonstrate the process. She must bake the cake of written English, not merely eat the cake that Hawthorne baked, as she stands before the class.

The second, and a more grave, reason for their failure is that they appear to place the emphasis on "writing," rather than on writing-about-something-for-someone. You cannot write writing. Or, at least if you do, you are not likely to learn how to write with clarity and validity, because they are not important to one who merely writes writing. Unless the emphasis is placed upon writing as a form of communication and directed very definitely, therefore, to an actual, live reader, the importance of clarity, organization and validity is not likely to become very apparent. Their importance becomes obvious, and the means of achieving them suggest themselves more or less readily, the moment one begins seriously to write about-something-for-someone.

The third and final point in this "diagnosis" of English instruction is that teachers of English, with apparently only a few exceptions, cling tenaciously to two strange theories. The first is that writing is an art, and the second is that it cannot be taught. What they seem to mean when they say that writing is an art is that writing does not have to say anything — except to the reader who has "appreciation" — that writing is at its best when it is a form of expression qua expression.

In teaching the student to write, if one takes this view of "writing as an art," there is no point — in fact, there is a strong argument to the contrary — in training the student to express himself clearly or with validity. For truth that is "not art" would be of no value, and if art that is clear is regarded as a contradiction in terms (and it seems to be so regarded by some), there would remain only truth that is vague as the ideal of the teachers of English whom we are here discussing. But in communicative writing, truth is never vague, for unless a statement is clear, the degree to which it is true cannot be determined. All of which goes far to explain how students can reach the graduate college without learning how to produce effective communicative writing.

The explanation is extended when we recall the other theory, so popular among some teachers of English, that real effectiveness in writing, since it is an "art," cannot be taught at all. Only God can make a tree; the teacher of English can only water the tree with verbal dew in the hope of keeping it green, and even the value of doing that is debatable. Teachers frequently boast of having "discovered" a writer; it seems that this in itself is regarded as no mean accomplishment. It is also to be noted that writers are sometimes said to have been "influenced" by a teacher. But when a teacher has "discovered" a writer and "influenced" him, he cannot further add to what the genes have done, nor detract from what the fates will do. Presumably, then, he doesn't try. And this pedagogical swooning by the teachers of English, on the theory that you can't make a silk purse out of a sow's ear, results in their making a great many sows' ears out of silk purses. It is not a question of the truth or falsity of their theory that effective writing cannot be taught, although this theory is probably not as largely true as many teachers of English suppose. The significant point is that the theory makes for unimaginative and lackadaisical teaching. Even God's trees might benefit from some systematic pruning and spraying.

V

My own narrow concern with all this lies in the fact that the ineffectiveness of the English instruction in our schools makes for a serious difficulty in the graduate college in all its branches. But the problem has an importance far more vast than this fact could ever give to it. For the ability of the individual, and of groups of individuals, to use language clearly and with validity is basic to personal efficiency and general development — it is basic to sanity itself — and it is fundamental to intelligent social organization and to the adequate management of national and international problems. The teachers of English in our schools and universities have been and are being entrusted with the heavy responsibility of training the members of our society in the effective communica-

tive use of our language. It is not a responsibility that they can meet appropriately merely by teaching the formalism of grammar, or superciliously disclaim by asserting that effective writing is an art and cannot be taught.

Effective writing is a human necessity in anything resembling a democratic culture, and this becomes increasingly true as the culture becomes increasingly complex. If the effective use of language cannot be taught, or if it is not to be taught to a far greater extent than it has been, we may well have occasion to despair of the grand experiment dreamed by Voltaire, championed by Washington and Franklin, and cherished by the American people through many generations. And if we must despair of that, then truly, even if you do learn to speak correct English, it may well not seem to matter very much "who you talk it to." For when the people cannot adequately speak or write their language, there arise strong men to speak and write it for them — and "at" them.

The issues of which I write are by no means to be regarded as academic issues. We are a symbolic class of life. To say that we are human is to say, above all and with incalculable significance, that our problems, as individuals, as groups, and as a world culture, are symbolic problems. They are problems that center around the symbols of government, the symbols of finance and general economy, of social status, of power and prestige, of class and race. They are the problems involved in the great institutionalized symbol systems of the Church, the Law, the State. They are problems of meaning, of evaluation, of orientation, processes which, on human levels, are predominantly symbolic in character. It is not the vestige of some forebear's whim that the whole structure of our educational system is founded squarely on the three R's, for reading, writing, and the use of numbers are forms of behavior in the absence of which human society would disintegrate and vanish. The degree to which these forms of behavior are cultivated and made adequate determines, more than does anything else, the degree to which a symbolic class of life may escape the threat of self-destruction and achieve cultural maturity. Our maladjustment, no less than our genius, as individuals and as groups, lies in our way of responding to and with symbols.

The place of the teacher of English in the structure of a symbolic society is, thus and indeed, not one to be occupied by petulant little men engrossed in verbal "fancy work." It is not too much to say that our possibilities for progress are determined, and limited, by those who instruct us in the use of our language. This view is as disheartening, perhaps, as it is challenging, but the more challenging it is to some, the less disheartening it need be to others.

From *ETC* 1-1, August 1943. Dr. Johnson, author of *People in Quandaries*, was Associate Professor of Psychology and Speech Pathology, University of Iowa, Iowa City, Iowa.

A GENERAL SEMANTICS COURSE IN THE SCHOOL OF JOURNALISM

EARL ENGLISH, PH.D.

I TEACH A one-semester course called General Semantics in Journalism to juniors, seniors, and graduate students in the University of Missouri's School of Journalism. I have varied the subject matter and the emphasis placed upon the different aspects of it during each of the four semesters the course has been taught. This paper is intended to be a brief recounting of some of my experiences and an evaluation of the course in a journalism teaching program.

The premises, theories, and 'facts' which serve as bases for successful journalism practices today are set forth in the literature and textbooks in the field. Each of the media — newspapers, radio, magazine, etc., — has its own peculiar problems and working techniques. However, it is safe to say that nearly everything done in the name of journalism education is for the purpose of improving our ability to communicate information to a particular group of individuals at one time. Of course the mere act of communicating effectively is not all that is involved in the foregoing generalization. An important part of communicating is the recognition and assumption of a certain social-moral responsibility on the part of the communicator.

Apparently, we have a rather long way to go before our knowledge of mass communication techniques will be developed sufficiently to yield the degree of

predictability generally associated with a field of science. So far our delving into public opinion polling, readership measurements, readability tests, psychogalvanic skin responses, circulation indices, sales barometers, coincidental ratings, etc., have shown us, if nothing more, how vast and intricate are the relationships which must be accounted for before we can have a science of communications.

The formulations of general semantics, it seems to me, can serve as the basic structure for understanding and synthesizing the vast amount of communications data which we already have and which will become increasingly complex as more and more information is derived.

One of the most interesting developments in the opening lecture in this course has been the natural insistence of students to ask, *"What is this course all about anyway? Is it logic, philosophy, psychology, word-study, or what? Tell us just what it is so that we can get on with it!"*

My experience indicates that for best results we should first consider the empirical premises of structure, order and relations, followed by a thorough examination of the *Structural Differential.* This consideration of the process of abstracting early in the work makes it easier to explain material that comes later and also helps to analyze the many interesting questions which naturally arise.

I have developed a reading list of books pertaining directly to the subject matter and generously supplemented with works of fairly obvious semantic implications. The books themselves are available on an open bookshelf in the journalism library. Best results ensue, it seems, when arbitrary book report assignments are not required. Instead, each student is asked to keep a notebook containing observations of his experiences which seem to be related to the principles set forth in the class lectures. The notebooks, however, frequently include abstracts, quotations, and comments based on books on the reading list.

The project provides a problem in the beginning. The question arises, "*Just what do you want in these notebooks?"* I tell them Korzybski's story about the art students, each of whom was given a block of wood and told to carve! Many sat for days, the story goes, unable to begin without exact instructions.

I note that if I suggest specifically a few items which might be included in the notebook, rather than the lone general request for observations which seem to illustrate some of the principles I have been developing, I get exactly those specific items and nothing more. On the other hand, the rather indefinite assignment eventually produces a wide range of pertinent observations, although this is a kind of exasperating critical point in the *espirit* of the class and a few students drop out as a result.

The notebooks are turned in to me for evaluating and grading three times during the term. Grades affixed at this time are merely projected ones, not cu-

mulative, the notebook in its completed form being the only basis for a final grade. This seems to lead to greater freedom of experimentation with what is acceptable, and permits the compiler to rectify mistaken applications of principle without penalty.

These notebooks are considered confidential, although I am tempted occasionally to present some of their very interesting contents to the class as a whole. Inasmuch as these students are involved in publishing a daily newspaper for the city of Columbia, many of the notebook passages have to do with the evaluation of journalistic experiences in terms of general semantic principles.

Toward the end of the course we come to another interesting assignment. This is the observation of a 'continuing event' over a period of several days. Up until this time the observations in the notebook may have been of a reminiscent nature, a natural result of our emphasis in education on themes and reports of a "what happened to me" nature. This assignment requires a commitment to a program of observations based on happenings to come. In other words, I ask students to conduct a planned on-the-spot evaluation of a 'continuing event.' If the semantic formulations actually have become meaningful by this time, this exercise provides opportunity for practical application.

These reports, with no suggestion as to subject from me, cover a wide variety of undertakings: a local trial, the daily columns of a political writer, a quest for a job after graduation, a newspaper's day-by-day treatment of a particular news event. The semantic principles imposed upon these observations tend to produce an observable improvement in the quality of a student's writing. Some of this may be due to the fact that by this time the observers are thoroughly aware of levels of abstracting. They can approach the task of evaluating, for example, the day-by-day output of a columnist on a certain subject with a realistic awareness of 'writing about writing.'

Under these conditions students have been known to produce some very readable reports. One Chinese student, while evaluating the daily filings of correspondents in his native land, observed in his notebook, *"I wish I could write my term paper this way!"* He was referring to his choice of a term paper on the subject of Chinese-American relations prepared for another class. His term paper, written "this way," later won the John B. Powell prize for the best essay on Chinese-American affairs.

Psycho-somatic considerations are not intentionally developed in this course. Of course, students quickly discover the deeper implications involved in the semantic teachings, and frequently report their simple personal adjustments as an integral part of their writing projects.

At the risk of conveying the notion that only Chinese students benefit from my course, I wish to tell the story of the Chinese student who kept referring in

his notebook to his roommate — an ardent follower of his homeland's Nationalist party. His roommate, he constantly repeated, should be taking this course. His roommate, he said, could not evaluate an issue on a continuum, nor admit the slightest concession to the enemy's point of view. The appearance of a newspaper story about the war set him off in emotional outbursts which, he pointed out, had little effect in stopping the Communists. One day his notebook included the simple notation that his roommate had taken to making impassioned speeches alone in his room and that the university clinic doctors had taken him away to an institution. "*But I have learned a lot about purposeful activity,"* he penned, "*and, while I guess I hate the Communists as much as he, I can find better uses for my energy than in emotional oratory. At least, I am still free to fight!"*

I believe the extensional methods of general semantics should be applied to the teaching of advertising and news photography, too. In the case of advertising there is already evidence that these methods reduce the danger of harmful effects upon the reader, or listener, and often actually increase the sales of a product because of the obvious improvement in the saneness of the appeal.

Another interesting benefit derived from the course is a new-found appreciation by some students for the fields of science and mathematics. It is gratifying to find journalism students, who almost traditionally "hate mathematics," returning to see just where they were frightened away from this amazingly effective language of numbers.

That the methods of science may be utilized in everyday affairs, as well as in the professional activity of a journalist is strangely new to some. They like the idea of a system of evaluation that seems to work in both their personal and professional problems.

No final examination is required in this course. Their grades, I repeat, are based on their notebooks. But the examination period is devoted to writing a letter to a puzzled prospective student who is considering enrolling in the course. The subject? *"What is this course all about anyway? Is it logic, philosophy … or what?"* The letters are retained by a member of the class until grades have been recorded before they are turned over to me. The frankness of criticism in some of them helps me improve my teaching, but most of all, they help to convince me that there is probably a great deal of benefit to be derived from General Semantics in Journalism.

Presented at the Third American Congress on General Semantics, University of Denver, July 1949. Dr. English was Associate Dean of the Faculty and Professor of Journalism, University of Missouri, Columbia, Missouri.

DEFINING TERMS OR DESCRIBING THINGS?

ELTON S. CARTER, PH.D.

THE CENTRAL THESIS of this paper was provided by one of the "big five" precursors of general semantics. It was Cassius J. Keyser who said:

> I can think of no greater improvement in our human discourse than that which would result if writers and speakers would stop the well-nigh universal and vicious practice of confusing definition and description ... In any useful sense of the term *definition*, a thing is definable if and only if it is possible to indicate at least one mark serving to discriminate that thing from all things else. But any true statement about a thing, even if true of a million other things, is a partial description of it. A vast majority of the so-called *definitions* encountered in literature are, even when true statements, nothing but partial descriptions. And when such a partial description is submitted as a genuine definition, one is bound to infer that the author either does not understand the essential nature of definition, and so is fooling himself, or is engaged in trying to deceive others. (1)

If the voice of Keyser were the only one calling for this discrimination between two levels of abstraction, it might be dismissed as a mere personal whim. But such is not the case. In *Principia Mathematica*, Whitehead and Russell declared that "... a definition is concerned wholly with the symbols, not with what they symbolise." (2) And one might add that a description is concerned with what the symbols symbolize, not with only the symbols themselves. And

then Jacques Rueff has said: " ... the statement that the definition expresses the essence of an object of the external world does not and cannot have any sense. An object is the sum-total of sensations. A definition, on the other hand, is a sum-total of non-contradictory words. The two are of distinctly separate orders." (3)

These voices, among others, afford strong support for a fundamental postulate: namely, definitions are always language directly about language, whereas all of those descriptions of interest to us are language directly about non-verbal things. According to this postulate, it is only one step from a description to the thing described; whereas there are at least two steps from a definition to the non-verbal realm. All of the traffic from definitions to the non-verbal things must take a detour through language. According to this postulate, there is no guarantee that definitions are dependable guides to the life facts unless the terms defined are adequate representatives (in the given culture) of the facts in question. If we agree to call an apple by the name *banana*, a new definition of the term *banana* would be needed. But to re-define the term *banana* without concern for the things now called *apples*, however entertaining the process, would not serve to distinguish apples and bananas. As the Columbia Associates in Philosophy have pointed out, "the definition must prove the means of identifying the thing defined and no other." (4)

Now in place of the terms *apple* and *banana*, substitute such terms as *appeasement* and *negotiation*, and you will surely realize a legitimate need for the rigorous, keyserian usage of the term *definition*.

But the keyserian usage is not the conventional usage in speech circles — nor many other circles, for that matter. Take the argumentation and discussion literature for example. Under the single label of *definition* we find both definition and description in the keyserian sense. According to the speech authors, an object is defined by explaining its purpose or function or how it works; a term is defined by the substitution of other terms; either an object or a term is defined by citing examples; such things as the Monroe Doctrine are defined by their history; a term is defined by etymology, usage, or context; and either terms or objects are defined by association, negation, analysis. And the most common pattern of these 'definitions' was presented as if, in defining terms, a non-verbal thing were assigned directly to a broad class (called *genus*), then to a narrower sub-class (called *species*), followed by a differentiation of the given thing from other things assigned to its sub-class. (5) Now is that what speakers do? Strictly speaking, it is not. Perhaps that is what biologists do, but that is not what speakers [*per se*] ordinarily do. Speech is not biology: biologists often deal with non-verbal things directly; speakers do not. For the most part, the specimens of speech are not things but words; it is words which speakers ordi-

narily classify and differentiate. The words *may* be representative of the actualities to which they are said to refer, but being 'accurate' is not a *necessary* function of words. Speakers ordinarily classify and differentiate things *only indirectly* and only if the verbal maps are adequate. As A.B. Johnson expressed it, "... un-verbal things are no party to our verbal disquisitions. They exhibit themselves just as our senses and our intellect discover, unaffected by our speculations, unchanged by our definitions." (6) The point is that a large sampling of the argumentation and discussion literature did not disclose an explicit distinction between defining terms and describing things. Indeed, the practice of confusing the two does seem to be well-nigh universal.

This is not to say that the disposition to establish, and maintain an agreement of meanings is socially undesirable. Far from it. But times have changed. As Korzybski said:

> In scientific literature of the old days, we had a habit of demanding 'define your terms.' The new 1933 [1950] standard of science really should be '*state your undefined terms.*' In other words, 'lay on the table your metaphysics, your assumed structure, and then only proceed to define your terms in terms of these undefined terms.' This has been done completely, or approximately so, only in mathematics. (7)

Of course the define-your-terms habit is still with us. Perhaps the demand is not demanding enough. But Keyser explained the situation this way:

> No discourse ... can define all of its important terms. The reason is plain: there is no way to define a term except by means of other terms; and so if we define certain terms by means of others, then those by still others, and so on, in the hope of defining all of our terms, we are bound to use, sooner or later, directly or indirectly, the terms first defined as means for defining others; and so our behavior will resemble that of a kitten pursuing its tail — a charming motion but no journey. (8)

Thus it is that anyone who faithfully defines his terms can spin himself into one of Wendell Johnson's verbal cocoons. And be it observed that he can never *define* his way out of it — not, at least, in the keyserian sense of definition.

So we have some advice for the faithful definer: don't spin yourself into a verbal cocoon. Learn to discriminate between *definition* and *description*. Instead of the single category, set up two categories: *definition* and *description*. Under the label of *definition* enter the language-directly-about-language procedures. Reserve for *description* only those procedures involving language directly about non-verbal actualities. This constitutes your measuring stick. Ap-

ply this measuring stick. You will discover, eventually, that proper classification depends upon the situation. When you have made this discovery, dig out one of your old speeches. Re-discover one of your so-called *definitions*, and find within it some undefined term. Working in the old pattern of definition-only, define this term; and then, from your new *definition*, select another undefined term — and so on, until you are thoroughly exhausted. Like Keyser's kitten, you will have had a "charming motion but no journey."

Now go back to the original specimen of language about language. As before, select one of its undefined terms. What actualities does this term represent — or misrepresent? Ask yourself, "What is the territory for this verbal map?" Describe that territory — not completely (for that's impossible) — but describe it adequately for your purposes. And then, if necessary, change your verbal map to fit the territory. And if you still need a definition, use the undefined term (but now its territory has been partially described) in your definition. Thus, by making *description* a prerequisite of *definition*, you may avoid verbal cocoons.

And now that you have followed this advice, you will surely appreciate an illustration by A.B. Johnson — an illustration which encourages what workers in general semantics call an *extensional orientation*.

> What is the moon? If an infant were to ask me this question, I might tell him to go into the street, and on looking towards the sky, he would discover something that looks like a large round piece of silver. That is the moon. You may say that my designation will not enable the child to find the moon, and you may give him some better description. We probably shall not altercate, because we shall understand that our words are intended to merely point out to the child something that is different from the words. But suppose I were to ask a philosopher to tell me what the moon is; he might say that the moon is an opaque globe of land and water, like our earth. He is not attempting to designate an existence, as I did to the child. My words were not supposed to be the moon itself; but the philosopher's definition is the moon verbally at least. You probably now understand what I mean by saying, that in all verbal discussions we should discriminate whether we are attempting to define a word, or to designate an existence. The discrimination is seldom made, and the want of it produces much contention and confusion. (9)

In these times of "much contention and confusion," it seems to me we might well be prepared to answer this question: *Defining terms or describing things?*

REFERENCES

1. Cassius J. Keyser, "Humanism and Pseudo-Humanism," *The Hibbert Journal*, XXIX (1931), p.229.
2. Alfred N. Whitehead and Bertrand Russell, *Principia Mathematica* (Cambridge: at the University Press, 1910), I, p.11.
3. Jacques Rueff, *From the Physical to the Social Sciences*, trans. Herman Green (Baltimore: The Johns Hopkins Press, 1929), p.30.
4. Columbia Associates in Philosophy, *An Introduction to Reflective Thinking* (Boston: Houghton Mifflin Co., 1923), p.33.
5. See, for example, A. Craig Baird, *Discussion; Principles and Types* (New York: McGraw-Hill Book Co., 1943), pp.28-37; James H. McBurney and Kenneth G. Hance, *The Principles and Methods of Discussion* (New York: Harper and Brothers, 1939); William T. Foster, *Argumentation and Debating* (2nd ed. rev.; Boston: Houghton Mifflin Co., 1945), pp.25-35.
6. Alexander B. Johnson, *The Meaning of Words*, etc. (Originally published, 1854; Milwaukee, Wisconsin: John Windsor Chamberlin, 1948), p.91.
7. Alfred Korzybski, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (First Edition, 1933, Second Edition 1941, Third Edition, 1948, International Non-Aristotelian Library Publishing Company; Institute of General Semantics, Lakeville, Conn., Distributors), p.155.
8. Cassius J. Keyser, *The Pastures of Wonder: The Realm of Mathematics and the Realm of Science* (New York: Columbia University Press, 1929), pp.72f.
9. Alexander B. Johnson, *A Treatise on Language*, ed. by David Rynin (Berkeley and Los Angeles: University of California Press, 1947), p.178.

[Original] Editor's Note by M. Kending:

For the author's reference in the first sentence to the "big five precursors of general semantics," see Alfred Korzybski, "Fate and Freedom" (1923), reprinted in Irving J. Lee, ed., *The Language of Wisdom and Folly* (New York: Harper, 1949), pp.341-357. "All human achievements are cumulative; no one of us can claim any achievement exclusively as his own; we all must use consciously or unconsciously the achievements of others ... Much of what I will say has been said before by many others ... the names of a few stand prominent." (Whitehead and Russell, Poincare, Keyser, Einstein.) As regards the author's use of "precursors" he has written, "I applied this label from a time-binding point of view. But also, my study of Keyser convinced me that Korzybski's 'mathematical philosophy' stems from and goes beyond the Keyserian mathematical philosophy in numerous fundamental respects (e.g. the extensional interpretation of 'real' variables in Keyser's writing; the extensional devices for handling multiordinal terms as variables in Korzybski's writings)."

From *General Semantics Bulletin Nos. 6-7*, Spring-Summer 1951. Dr. Carter taught at State College, Pennsylvania.

TO BE OR NOT TO BE: E-Prime as a Tool for Critical Thinking

D. David Bourland, Jr.

E-Prime! The Fundamentals

Ambrose Bierce, in his famous *Devil's Dictionary*, defined logic as "The art of thinking and reasoning in strict accordance with the limitations and incapacities of the human misunderstanding." As we become conscious of our misunderstandings we improve the quality of our thinking, and most particularly our thinking about thinking, which Richard Paul defines as "critical thinking." In this article I will describe an offshoot of Korzybski's system (18, 19) known as *E-Prime*: English without any form of the verb *to be*. The name comes from the equation *E'= E-e*, where *E* represents the words of the English language, and *e* represents the inflected forms of *to be*.

Depending on exactly how one defines "word," most scholars regard the English language as embracing some one to two million "words," or lexical items. (Note 1.) In E-Prime one simply does without 20 or so of these lexical items; specifically, the *to be* family: *be, is, am, are, was, were, been, being*; plus

contractions — *'m, 's, 're*; plus various archaic and dialectual forms — e.g., *ain't*.

While statistically E-Prime only makes trivial changes relative to the English lexicon, it does affect the syntax. Even this effect, however, does not seem as severe as it might appear. This unexpected lack of severity proceeds from the well-known "richness" of the English language, which provides a wealth of linking verbs (become, seem, appear, verbs related to the senses), apposition, etc., that can take over most of our habitual applications of *to be*. On the other hand, E-Prime does admittedly entail the necessity of expressing the progressive aspect by using ". . . continues to ... ," and it makes use of the passive voice difficult or even impossible. (Note 2.)

In marked contrast with the areas of the lexicon and syntax, E-Prime delivers major and unexpected consequences to English semantics.

The E-Prime revision of English, although trivial in some respects, has deep underlying epistemological antecedents and consequences. Critical thinkers have struggled with the semantic consequences of the verb *to be* for hundreds of years. These distinguished persons include Thomas Hobbes (11), Augustus de Morgan (22), Bertrand Russell (24), Alfred North Whitehead (27), George Santayana (25), and Alfred Korzybski (19). Their concern, and ours as critical thinkers, centers upon two semantic usages of *to be*, Identity and Predication, that have these general structures in which TO BE represents an appropriately inflected form of the verb *to be*:

Identity: Noun Phrase, + TO BE + Noun Phrase$_2$
Predication: Noun Phrase, + TO BE + Adjective Phrase,

Identity

Critical thinkers have argued against using statements having the structure of Identity because they immediately produce high order abstractions that lead the user to premature judgments. Consider the following statement:

John is a farmer.

The immediate consequence of such an identification at the very least brings about unjustified abbreviation, which can severely interfere with communication. For example, consider the following three sentences about John:

1) John farms three acres.
2) John owns and operates a 2,000-acre farm.

3) John receives $20,000 a year from the government for not growing anything on his farm.

We could even carry this illustration into a different dimension:

4) John, after living in the city all his life, has just bought a farm.
5) John grew up on a farm and has farmed there for 61 years.

Despite the fact that 1) through 5) make extremely different statements about John, most English-speaking people feel comfortable making the jump from any one of these statements to *John is a farmer*. Critical thinkers trained in general semantics hold that *John is a farmer* does not represent a valid higher order abstraction which could come from such observations as 1) through 5), but rather a possibly incorrect and certainly inadequate abbreviation of the larger picture.

Of course, due to the uniqueness of structures on the event level and the process character of 'reality,' no structure can have precise identity with another — or even with itself at two different times, for that matter. Hence we can categorically deny the validity of any Identity relation. And accordingly, any linguistic structure which conveys or assumes an Identity relation does not correspond well with 'reality.' As Korzybski might have put it, "The map does not fit the territory."

A decade before Korzybski, George Santayana described those matters somewhat poetically as follows:

> The little word is has its tragedies: it names and identifies different things with the greatest innocence; and yet no two are ever identical, and if therein lies the charm of wedding them and calling them one, therein too lies the danger. Whenever I use the word is, except in sheer tautology, I deeply misuse it; and when I discover my error, the world seems to fall asunder, and the members of my family no longer know one another. (25, p.123.)

Predication

Let us now consider *Predication*, as illustrated in the following statements:

a) The earth is flat.
b) The earth is round (spherical).
c) The earth is somewhat pear-shaped.

The verb *to be* carries with it a huge intellectual momentum of completeness, finality, and time independence. Still, each of the statements a) through c) does describe the earth adequately for some restricted purposes. This dual condition of adequacy-inadequacy seems characteristic of the Predication usage of *to be* and provides both its charm and danger.

Early presentations of Korzybski's methodology evidently did not clearly explain the notion of the "is of Predication" despite its importance. Classical logicians have applied the label "subject-predicate" to statements that use the "is of Predication" as their main term. As Bertrand Russell put it:

> The belief or unconscious conviction that all propositions are of some subject-predicate form — in other words, that every fact consists of some thing having some quality — has rendered most philosophers incapable of giving any account of the world of science and daily life. (24, p.24.)

Korzybski stated the importance of this matter in the following way:

> The subject-predicate form, the "is" of identity, and the elementalism of the Aristotelian system are perhaps the main semantic factors in need of revision, as they are found to be the foundation of the insufficiency of this system and represent the mechanism of semantic disturbances, making general adjustment and sanity impossible. (19, p.371.)

We may note in passing that the statements of both Russell and Korzybski contain one or more uses of the "*is* of Identity." (See Note 3.)

We can agree, I trust, that the Identity and Predication uses of "to be" do not reflect factual circumstances in the world as we experience it. For those die-hards among us who have some doctrinaire bias, or who otherwise did not pay attention, I shall recapitulate:

- Everything in the 'real world' changes: sometimes so rapidly that we may not notice the changes directly (as in the case of a table which appears solid), sometimes so slowly that we can (as in the case of a river).
- Every person, as well as every 'thing,' undergoes such changes.
- One particular verb in English — *to be* — carries with it archaic associations and implications of permanence and static existence that we do not find in the 'real world.'

We have devoted much of the preceding material to a discussion of the epistemological reasons for avoiding the semantic usages of the *to be* of Identity and Predication. Other usages of that verb exist, of course, including the following:

Auxiliary — *John is reading. Ivan is plotting. The rose is wilting.*
Existence — *I am. Descartes was. You* may *be, but then again ...*
Location — *John is here. That is neither here nor there.*

I have heard that I.A. Richards has allegedly distinguished between some 23 different usages of *to be,* but I have never seen the paper in question.

For many years, as noted above, several titans of critical thinking have inveighed against the Identity and Predication usages, *while continuing to use them.* Piecemeal attempts to avoid the undesirable usages of *to be* simply have not worked. E-Prime provides a simple discipline that *does* work. Even Korzybski and some of his most prominent students regularly fell into what we might call the "Is Trap." I shall give three examples of the "Is Trap" in action:

- ***Korzybski***. Prior to the advent of E-Prime, Korzybski had more to say about the inherent dangers of the *to be* of Identity and Predication than any other critical thinker. And yet he himself fell into the "Is Trap" to the extent of using those two constructions in some 37% of his sentences in *Science and Sanity*.

- ***Bois***. For a number of years the late J. Samuel Bois served as the chief lecturer for the Institute of General Semantics at their annual seminars. Many, including this writer, consider his book, *The Art of Awareness* (1), an excellent introduction to general semantics. And yet Bois used the *to be* of Identity and Predication in about 42% of his sentences in that text.

- ***Read***. In a discussion of these matters, the noted lexicographer Allen Walker Read agreed that one should "call attention ... to the undesirable 'is of identity' and 'is of predication' (as in reference 23), but still rejected the most positive technique for doing more than just "call attention." Read sought to justify his rejection on the basis of a set of allegations that do not apply to E-Prime (e.g., the latter does not make it impossible to express the progressive aspect, the passive voice, metaphor, adjectives, and appositives). He continues to use the "is of identity" and the "is of predication."

Those three linguistically sensitive critical thinkers seemingly could not avoid the undesirable uses of *to be;* while allowing themselves the luxury of the other uses. At least, so they wrote — and spoke.

The Impact of E-Prime on Writing and Talking

In this part of the paper I will present four of the major consequences of using E-Prime in written and spoken utterances.

a. *Vanishing Questions*. One simply cannot ask a number of questions — some would say pseudo-questions — that have preoccupied many people. *What* is *man? What* is *woman? Is it art? What* is *my destiny? Who* am *I?* Such questions, by virtue of their semantic structure, set the stage for identifications and confusions in orders of abstraction. They tend to lead to discourse in which the likelihood of useful information generation or exchange declines precipitously. One might better ask questions on a lower order of abstraction such as these: *What characterizes man or woman uniquely? In what way can I relate to this art form, if any? What can I do* now *to improve my future possibilities? May I have another drink?*

b. *Vanishing Internal Instructions*. Various schools of psychotherapy have recognized the importance of the silent assumptions which we hold about the world and ourselves. Other schools, especially the "rational therapy" developed and practiced by Dr. Albert Ellis, also recognize the importance of what we tell ourselves, vocally and subvocally. "Self-suggested nonsense," Dr. Ellis calls this in its undesirable forms. Most of us have encountered people whose life patterns have decayed as they keep repeating to themselves such comments as these: "I *am* a failure, consequently ... ," "I *am* a success, therefore ... ," "She *is* a Catholic, so ... ," "He *is* a Jew, hence ... ," "I *am* a teacher, so what I am doing must be teaching," "Since I *am* the head of this household ..."

c. *Abbreviations*. Forms of *to be* encourage and indeed facilitate the making of abbreviated statements that may turn out to convey little or no information, although we often behave as if they do. For example, we often see such empty comments as: "It *is* clear that ..." "Well, business *is* business." "The problem *is* just a matter of semantics." Let us discuss that last assertion. While of course most human problems involve important (and usually unexplored because unper-

ceived) semantic issues, these issues do not evaporate just because someone has labelled them thusly. Some people use "It's just semantics" as an analysis stopper. One might productively respond to such a comment by pointing out, "Certainly; at least in part. Now let's try to clarify some of those semantic problems."

Confusion due to improperly abbreviating with *to be* even occurs in primary schools. All too frequently we still hear teachers insisting that children drill in arithmetic by saying "One plus one *is* two; one plus two *is* three; etc." The perfectly appropriate mathematical expression *equals* certainly need have no more inherent mystery for the young than *plus*. The unnecessary use of *is* in this context may have some responsibility for the difficulties some children experience with fractions. They can readily see the differences between 1/3 and 2/6. The first fraction may *equal* the second, but obviously some trouble could arise for those taught to translate "=" as *is*.

d. Return of the Role Players. As mentioned above, E-Prime makes use of the passive voice somewhat difficult. One may have to resort to constructions with the somewhat scruffy auxiliary verb "to get" as in "The work got done." Rather than a drawback, this consists of one of the greatest contributions of E-Prime. This facet of E-Prime forces users to bring the role players into explicit prominence or to indicate their ignorance of them. For example, many writers of technical and scientific papers forget that objectivity resides in the *persons* conducting the various experiments, etc., rather than in the passive forms used in reporting the results. I know of two instances in which scientists applied E-Prime to their complete report because this technique actually forced them to make explicit some important early details. One instance involved the failure of a sensor on a satellite, and the other concerned the fact that contractor personnel did not switch on a certain antenna. In both instances early versions of the reports in question said something like, "The data were not available." Subsequent digging for the role players brought useful information to light.

Politics and Language

In the years immediately following World War I, Alfred Korzybski observed the stark differences between the consequences of engineering and scientific activity and the fruits of political activity. He pointed out that, when engineers build a bridge it normally functions as designed. But when politicians "build" a

treaty or government, it usually collapses amid great human suffering.

Korzybski's analysis led him to conclude that the fundamental factor responsible for that discrepancy in performance consists of the structure of the languages used by those who design bridges and those who design governments. The engineers and scientists use a language (mathematics) which has a structure similar to that of the bridges, hence the language produces predictability. However, the politicians normally employ a language of archaic structure that uses static terminology in describing dynamic human socioeconomic issues. As Korzybski pointed out, to the extent that a treaty, constitution, etc., incorporates this kind of static-dynamic discrepancy, one may expect undesirable and unstable consequences.

To put this somewhat differently, Korzybski asserted in his books that dynamic social institutions, if based upon static premises, must ultimately collapse. And if we inquire into this matter semantically, we find that the use of the verb *to be* constitutes the main source of static premises and assertions in ordinary English.

Recognizing the insidious role which *to be* theoretically may perform in socio-political contexts, I analyzed several important, basic political documents. The purpose consisted of determining to what extent the language in the documents exhibited a static character, as indicated by their reliance on the "*is* of Identity" and "*is* of Predication."

I chose the following political documents for study:

a. The Constitution of the United States of America.
b. The Communist Manifesto.
c. Machiavelli's *The Prince*.
d. Robert Welch's *The Blue Book*.
e. Aristotle's *Politics*.

TABLE I
Political Document Study

Document	Sentences Analyzed	Per cent of Sentences With One or More Uses of Identification or Predication
Constitution of U.S.A.		
a. Main Body, no Amendments	99	20.2
b. Complete	166	21.6
Communist Manifesto	444	26.2
The Blue Book (sampled)	207	48.8
The Prince (sampled)	175	53.6
Politics (sampled)	188	60.1

Table I shows the results of the analysis of sentences in the documents noted above. Some distortion in the results may exist, due to the fact that the documents by Machiavelli and Aristotle exist as English translations. However, the original languages in both cases belong to the Indo-European family, so the distortion probably does not amount to too much. Marx and Engels allegedly wrote the "Communist Manifesto" in several "original" languages, including English. Engels supposedly edited the English version which I analyzed.

In my assessment, the results given in Table I, ranked in accordance with the increasing appearance of the uses of Identity and Predication, also correlate precisely with the great flexibility and power of our Constitution to the sterility of Mr. Welch's nightmare, and the rigid dogmatism of Aristotle. I submit that these results give quantitative substantiation for Korzybski's thesis.

Conclusion

Apart from any doctrinaire considerations, E-Prime can assist the user in attaining a kind of vigorous clarity that many have found worthwhile. Of course I know of only some of the people who have found E-Prime useful in their writing and speaking. However, E-Prime has found application in: one doctoral dissertation in physics (by Dr. D.A. Schwartz in 1968) (26), one licenciatura thesis in linguistics (mine in 1973) (5), a master's thesis in Biblical studies (by Byron L. Cannon in 1987) (7), a multi-volume research report by the U.S. Naval Air Systems Center (Project IMP in 1971), and a variety of papers published by myself, E.W. Kellogg, III, Elaine C. Johnson and Paul Dennithorne Johnston in the *General Semantics Bulletin* and *ETC*.

Of course, it pleased me greatly to learn that the noted psychotherapist, Dr. Albert Ellis, thought enough of the benefits of E-Prime that he re-wrote two of his books in this manner (*A New Guide to Rational Living*, with Robert A. Harper in 1975, and *Anger: How to Live With and Without It* in 1977). (9, 10) Scientific papers by Kellogg which show "E-Prime in action" have appeared in *Nature* (17), *The Journal of Bioelectricity* (14), and *The Journal of Gerontology* (16). Further applications have appeared in various places due to the efforts of C.A. Hilgartner, M.D., K.L. Ruskin, M.D., Charles Morgan, and T.J. Hefferon.

The diversity of applications described above testifies to the generality and utility of E-Prime.

I offer E-Prime to those interested in critical thinking as an easily teachable technique that has immediate benefits. In writing and talking it provides a method for materially reducing "the human misunderstanding." As the current ad for Nike athletic shoes puts it, "Just do it."

REFERENCES

1. Bois. J. Samuel. *The Art of Awareness*. Dubuque: Wm. C. Brown Co. 1966.
2. Bourland, D. David, Jr. "Introduction to a Structural Calculus: A Postulational Statement of Alfred Korzybski's non-Aristotelian Linguistic System," *General Semantics Bulletin*, Nos. 8 & 9. 1952.
3. _____ "A Linguistic Note: Writing in E-Prime, "*General Semantics Bulletin*, Nos. 32 & 33. 1965.
4. _____ "The Semantics of a non-Aristotelian Language," *General Semantics Bulletin*, No. 35. 1968.
5. _____ *A non-Aristotelian Paradigm for Linguistics*. Licenciatura thesis. San Jose, Costa Rica: Universidad de Costa Rica.
6. _____ "The Language of E-Prime," in *Coping with Increasing Complexity*, Ed. by D.E. Washburn and D.R. Smith. New York: Gordin & Breach. 1974.
7. Cannon, Bryon L. *An E-Prime Approach to the Holy Bible*. MS thesis. Fort Hays, Kansas: Fort Hays State University. 1987.
8. Chomsky, Noam. *Syntactic Structures*. The Hague: Mouton & Co. 1957.
9. Ellis, Albert. *Anger: How to Live With and Without It*. Secaucus, NJ: Citadel Press. 1977.
10. _____ and Robert A. Harper. *A New Guide to Rational Living*. North Hollywood: Wilshire Book Co. 1975.
11. Hobbes, Thomas. *Leviathan*. 1651. (New York: Liberal Arts Press edition 1958).
12. Jesperson, Otto. *Essentials of English Grammar*. London: Allen & Unwin. 1933.
13. Johnson, Elaine C. "Discovering E-Prime," *Et cetera: A Review of General Semantics*, Vol. 45, No. 2. 1988.
14. Kellogg, E.W., III. "Air Ions: Their Possible Biological Significance and Effects," *J. Bioelectricity*, Vol. 3, pp.119-136. 1984.
15. _____ "Speaking in E-Prime," *Et cetera: A Review of General Semantics*, Vol. 44, No. 2. 1987.
16. _____ and M.C. Yost. "The Effects of Long Term Air Ion and D.C. Electric Field Exposures on Survival Characteristics in Female NAMRU Mice," *J. Gerontology* Vol. 41, pp.147-153. 1986.
17. _____ , M.C. Yost, and A.P Kruger. "Superoxide Involvement in the Bactericidal Effects of Negative Air Ions on *Staphlococcus albus*," *Nature*, Vol. 281, pp.400-401. 1986.

18. Korzybski, Alfred. *Manhood of Humanity*. New York: E.P. Dutton. 1921. Second edition, 1950, distributed by the Institute of General Semantics.

19. _____ *Science and Sanity*. Lakeville, CT: International Non-Aristotelian Publishing Co. 1933. Fourth edition 1958.

20. _____ *Selections from Science and Sanity*. Lakeville, CT: International Non-Aristotelian Publishing Co. 1948. Eighth Printing 1976.

21. Lee, Laura L. "The Relevance of General Semantics to the Development of Sentence Structure in Children's Language," in *Communication: General Semantics Perspectives*, Lee Thayer, ed. New York: Spartan. 1970.

22. de Morgan, Augustus. *Formal Logic*. 1847. London: Open Court (reprinted 1926).

23. Read, Allen Walker. Personal Communication. 1976.

24. Russell, Bertrand. *Our Knowledge of the External World*. Chicago: University of Chicago Press. 1914.

25. Santayana, George. *Scepticism and Animal Faith*. New York: Scribner.

26. Schwartz, Daniel A. *The Spatial Distribution of the Diffuse Component of Cosmic X-Rays*. Doctoral dissertation. San Diego: University of California at San Diego. 1968.

27. Whitehead, Alfred North. *The Principle of Relativity With Applications to Physical Science*. Cambridge, England. Cambridge University Press. 1922.

NOTES

1. This conventional position ignores the names of the integers after some arbitrary cutoff point. Otherwise, we would have to say trivially that most modern languages contain at least a denumerably infinite number of words.

2. The comparatively minor syntactic consequences of E-Prime reflect the operation of the same linguistic functions that account for the fact that some natural languages lack a verb that corresponds exactly to *to be*, including Russian, Hungarian, and Mandarin at least. It seems interesting to note that the speakers of those languages alone account for about 20% of the world's population.

3. The lack of an adequate treatment of the "*is* of Predication" has led to some unfortunate confusion. The "*is* of Predication" statement has the basic structure given in (2) above. In the early days of the transformational approach to syntax, Chomsky (8) gave the following re-write rule for a sentence (S):

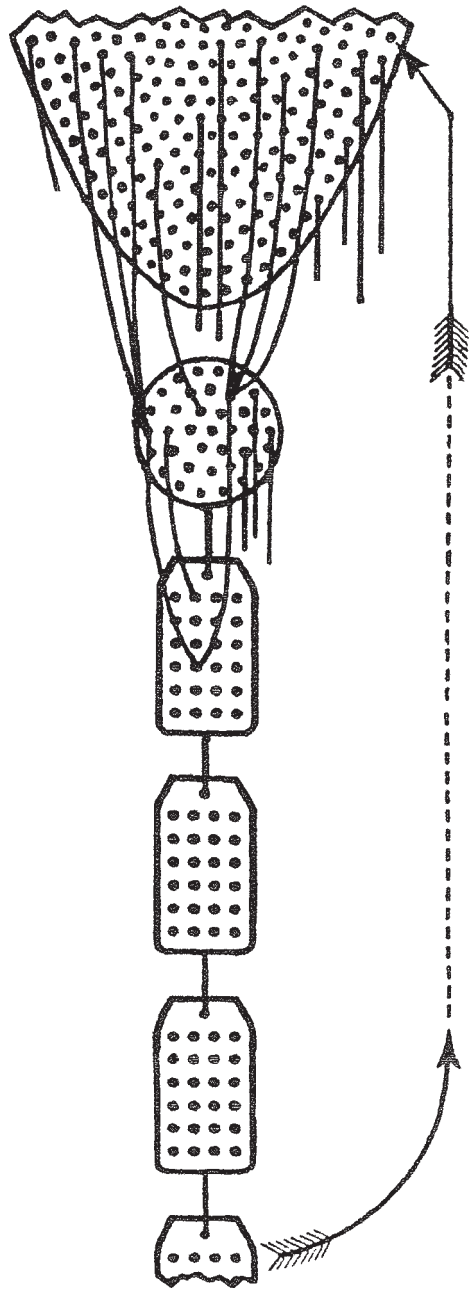
(N1) S → NP + VP,

where *NP* represents *noun phrase*, and *VP* represents *verb phrase*. In pre-Bloomfieldian "traditional" grammars, linguists called the NP of (N1) the "subject," and the VP of (N1) the "predicate" (e.g., Jesperson (12, p.97). The slight difference in terminology and the great difference in significance between the philosophical *subject-predicate* and the linguistic *subject + predicate* provided the raw material for problems. For more on this matter see reference (21, p.121).

From *ETC* 46-3, Fall 1989. David Bourland originally proposed E-Prime in "A Linguistic Note: Writing in E-Prime," published in *General Semantics Bulletin* No. 32-33, 1965-66.

"I perceive that we inhabitants of New England live this mean life that we do because our vision does not penetrate the surface of things. We think that that *is* which *appears to be*."

Henry David Thoreau in *Walden*



The Structural Differential

A SHORT EXPLANATION OF THE STRUCTURAL DIFFERENTIAL

CHARLOTTE S. READ

THE BROKEN PARABOLA represents the complex submicroscopic, dynamic *process level*, inferred but not perceived, with an indefinite number of *characteristics*.

The circle below the parabola represents the object, person, situation, etc., that we perceive with our senses, abstracted from the process level. This is called the *object* or macroscopic level of 'sense data,' somewhat different for each person and from one time to another.

The third abstracting level is called the *label* or descriptive level, when we give a name or a description to what is perceived at the object level.

Then we can make statements that generalize or infer about the label or description, and continue these generalizations indefinitely.

The holes in the diagram represent characteristics. As we abstract, or select, from one level to the next we leave out some characteristics, designated by the hanging strings.

The connecting strings indicate the characteristics that are included in the subsequent level. As we generalize, we include fewer and fewer of the originally-perceived characteristics and introduce new characteristics by implication.

We can abstract on higher and higher orders, and we can make higher and higher order verbal generalizations as we move down the diagram and further from the immediate sense data. Completing this cycle of abstracting, we project onto the silent, dynamic levels our assumptions, inferences, theories and beliefs. This is shown on the diagram by the arrow that returns to the inferred process level, thus denoting our 'circularity of knowledge.'

From an IGS handout, included in the 3rd Edition of Kenneth G. Johnson's *General Semantics: An Outline Survey* (2004).

INTRODUCTION OF ALFRED KORZYBSKI AT A LUNCHEON IN HIS HONOR
New York City, January 28, 1948

STUART CHASE

EVERY ONCE in a while a man comes along who overturns a great towering edifice of accredited wisdom. He is usually not welcomed at the time, especially by those on the top of the edifice, but gradually the world comes to be grateful. New knowledge with a closer fit to 'reality' has been added to the old.

Now in my lifetime — it runs back quite a ways now — I have seen at least three of these intellectual revolutionaries.

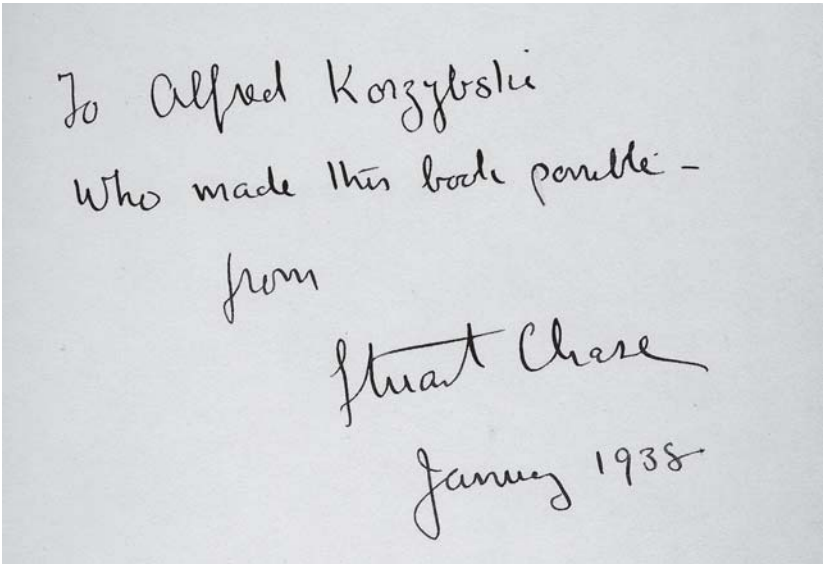
Einstein of course is the first and the most devastating; his demonstration of relativity undermined the lofty absolutes of Newton and broke the world of physics wide open, and it stayed broken until that famous expedition of the Royal Society in 1919 which went down to Equatorial Africa, I believe it was, to an eclipse of the sun and measured the bend of the light rays and thereby verified relativity. Then the physicists, after the fact, had to fall into line.

John Maynard Keynes, the great economist, was the second revolutionary whose course I have followed. He tore the ground from under the reigning school of classical economics, Ricardian *laissez-faire*. He demonstrated that there were no natural forces working at a distance to reverse the down swing when a business cycle really got under way. He showed that savings were not

automatically reinvested, because a different group of people made the savings and then took charge of the investment. $Adam_1$ was not $Adam_2$. Like Einstein he broke in the side of the academic house and the faculty nearly froze to death. Economics will never be the same again.

Now we have with us today a third revolutionary, intellectual revolutionary, perhaps I should qualify, who has overturned soaring edifices of accredited wisdom and knowledge dating back as far as Aristotle. He too has realized that nothing has a greater hold on the human mind than nonsense fortified with technicalities. He too is exceedingly chary of what the London *Economist* called the other day "proceeding from unwarranted assumptions to foregone conclusions" — a process which has characterized so much work in philosophy, in logic, in history, and in the political and social sciences. He has brought the wise men with the big words up short. From now on they've got to know what they are talking about or risk the dreadful penalty of ridicule. Our speaker has helped to fashion a tool of the highest utility to all workers in the fields of medicine, of science, of education, of social problems, of human communications — Alfred Korzybski.

From the IGS archives. Stuart Chase wrote *The Tyranny of Words*.



Inscription from Stuart Chase to Alfred Korzybski inside Chase's *The Tyranny of Words*.

ON GENERAL SEMANTICS AND PHYSICO-MATHEMATICAL METHOD

ALFRED KORZYBSKI

The following is a summary of Korzybski's remarks at a luncheon held in his honor at the Yale Faculty Club in February 1949.

I FEEL THAT I am honored to be here at Yale and I wish that I might have been an alumnus of Yale if for no other reason than to have had the privilege to study under your great pioneer, Professor J. Willard Gibbs. He was without doubt one of the greatest scientists this country has ever produced. I did not know Professor Gibbs personally; he was forty years my senior. But I do know his work and his brilliant student and colleague, E.B. Wilson, also one of your former professors, who is living and doing creative work. While he was still practically a youngster, Wilson wrote up Gibbs' modernization of the vector calculus. It is no exaggeration to say that without Gibbs and Wilson there would be no simplified and workable vector calculus. Without Gibbs, mathematical physics and modern physical chemistry, that has produced so much, would be greatly handicapped.

Wilson and I (and also Einstein by the way) were born in the same year, 1879. It was a very fortunate scientific period to be born into, for in the nineteenth century began the most scientifically revolutionary epoch the world has

ever known, and that revolution is still going on in the twentieth century. Some of the most radical new work in physics and in mathematics had just been done or was being done. The new developments from which we are only now beginning to reap the results in technological advances, including the release of nuclear energies, etc., were all in the air. It was inevitable that we who were born at that time should absorb them, and that our work should become a part of them.

Of Professor Gibbs I shall speak especially warmly since it is from achievements such as his that I was able to produce my own work. You will recall that Gibbs studied on the continent and he was influenced both by American and by continental mathematical and physical outlooks. At that time attention on the continent was mostly on so-called 'pure' mathematics. In America it was predominantly on *applied* mathematics. It is not surprising then that what Gibbs produced was a *synthesis* of the two. As Professor Wilson points out, Gibbs refused to go flying off into endless theorizing until it was warranted by the 'facts.' While developing his theories he kept his feet on the ground, which accounts ultimately for the great value and importance of his work to us.

The great tradition of Yale University is not only carried on in the department of exact sciences, but also it permeates other departments, such as Anthropology, Psychology, Philosophy, Sociology, Law, etc. I am grateful for the generous cooperation of some members of the faculty of those departments.

You see therefore why I feel so honored to be here at Yale.

I shall speak now very briefly of my own work. In General Semantics we are not concerned with physics or with mathematics as such. What we are concerned with is *physico-mathematical method*, which a layman and even a child can understand and absorb. This method happens to be a higher order abstraction, a digest from both physics and mathematics, which is applicable by human beings everywhere in daily life.

My work began, as you may know, by formulating a unique human function, which I call "time-binding." Through observations and study it became obvious to me that humans represent a "time-binding class of life," since they have the potentiality at least to transmit accumulated achievements from one generation to the next, so that each generation can begin where the former left off. Each generation does not need to learn all over again by bitter trial and error but can stand on the shoulders of those who have gone before. Animals cannot do this, nor can plants. So this discovery and formulation of the natural, characteristically human function gives us the means to discriminate sharply between man and animal, and no need for zoological or mythological evaluations.

I followed this by many years' study of what men actually *do* as time-binders. I came to a conclusion that in mathematics and exact sciences human

nervous systems are working *at their best*, and that what they are doing when they 'mathematicize' is simply making structural patterns ready for application to actual human life issues. It is not surprising then that we should find physico-mathematical methods especially useful in dealing with human affairs generally. These are problems that I take up in my *Manhood of Humanity, Science and Sanity*, and in my seminars, and I cannot go into them here.

As a summary it may be said roughly that from 'pure' mathematics, which was not supposed even to be a science as it lacked empirical content, we established 'applied mathematics,' which dealt with empirical results. In my work I had to pass to a third step; namely, the simplest crystallization of physico-mathematical *method*, which also involves empirical results, but this time on the human daily life psychological level of evaluation.

Before closing, I want to say something about the present tragic world situation. We are compelled now to re-arm at enormous expense because East and West simply have no way of understanding each other. There is no way out, short of a Third World War, which will happen, *unless* we can agree on common human-scientific premises for our orientations about 'man.' Dictatorships, 'iron curtains,' as long as they remain, will always make this impossible, as they are clearly against time-binding. There is, however, something that can be done. We can bring the peoples that we are in communication with to a common understanding of man's natural time-binding function; we can continue to produce solid human-scientific data on which all can agree, and the Soviets definitely can not win against a united public opinion.

I should point out that I say 'Soviets' deliberately since actually there is no such thing as 'Russian.' What is commonly called 'Russia' is not a melting pot like the United States, where separate cultures have blended to produce a new, higher culture. 'Russia' is a mixture of tribal cultures, each keeping its individuality. From these there cannot spring a world-wide movement for peace and social progress until there is a common understanding of men's natural functions as time-binders.

From *Alfred Korzybski Collected Writings 1920-1950*, edited by M. Kendig.

ON SENSORY AWARENESS

Charlotte Schuchardt Read

In speaking of "sensory awareness" I refer to the work developed, and so named, by Charlotte Selver, which has become so influential particularly during the past few decades. Why is this approach important in training ourselves through general semantics? It offers a way of learning to *experience,* to internalize through increased awareness of our usually unconscious ways of perceiving and moving, behaving and speaking, what we try to achieve through general semantics methods, sometimes less successfully, through verbal means.

We discover what it feels like to be "silent on non-verbal levels," to come in contact, through our senses, with what our words represent, to get in touch with the 'territory.' We practice being more in touch with ourselves-in-action, rather than clinging to some image or idea we may have of ourselves. We learn to allow and trust our organism to establish its own inner order rather than imposing what we may have learned we ought to do. This work toward increasing sensitivity becomes a study and practice for each of us in relating ourselves throughout the day to our environments, to our daily tasks, to other people, and to our deepest feelings, as we learn to quietly feel through whatever we undertake, finding out what each situation asks of us. It is thus of central importance to a theory of evaluation such as general semantics, where body-mind, intellect-emotion, etc., are not split, and awareness of ourselves as living organisms becomes as important as our verbalizing.

When I discovered the work in 1955, I immediately felt it so important for persons interested in general semantics that it became an integral part of the seminar programs of the Institute ever since then. For many years there was almost nothing written on the subject. Now, finally, a book has appeared called *Sensory Awareness: The Rediscovery of Experiencing* (Viking Press, 1974), in which the work is beautifully, understandingly and clearly written about by Charles Van Wyck Brooks, student and husband of Charlotte Selver, and for many years her collaborator in teaching. Since there is much misunderstanding and often superficial interpretation of 'sensory awareness,' this authentic book is most welcome in showing the discipline in its historical perspective and in its seriousness and depth. The pioneering efforts of Charlotte Selver in this country beginning in 1938, based on the work of Elsa Gindler in Germany, has been largely responsible for the popularity of this type of awareness at growth centers and other centers throughout the country interested in the whole person.

Whoever has known the difficulties of putting into words some deeply felt experience, or who has had some practice in 'sensory awareness,' will appreciate Mr. Brooks' extraordinary achievement. He meets the challenge, shows the many facets of the work, leads the reader to the threshold of experiencing through descriptions of experiments in classes, questions raised, and through the attitudes conveyed in what he says. One may learn by reading and then — most importantly — by trying out for oneself. The book is a blend of clarifying, philosophical, poetic, autobiographical statements, permeated with Charles Brooks' wit and delightful humor. Its message is enhanced and strengthened by the many photographs which convey more than words could.

The name 'sensory awareness' in my opinion is not inclusive enough, and tends to be misleading. The subtitle of the book, *The Rediscovery of Experiencing*, places the emphasis on awakening our usually smothered ability to experience each moment anew, as we could when we were babies or very young children. Long-shut doors may open, our world appears in fresh perspective, and our explorations can lead us to unexpected insights about ourselves, we can become more whole, more fully alive.

From *ETC* 33-3, June 1976. Ms. Read served as Secretary of the Institute's Board of Trustees.

ABSTRACTIONS OF VISUAL ABSTRACTING

HARRY HOLTZMAN

THE TWO DESIGNS reproduced on the covers of this issue of the *General Semantics Bulletin* (see page 569) were made by Margaret Nelson, who classifies herself nowadays as housewife and mother, and Lillian Charney, Executive Secretary, Canadian Home & School & Parent-Teacher Federation. Both products emerged during the course of my workshop at the Institute's summer seminar-workshop at Bard College last August.

It will be of some interest to those who have not attended these annual intensive sessions to realize that the designs are not the result of an emphasis on producing 'art' objects. Although this kind of association and appraisal is not irrelevant or undesirable, it is more interesting to know that the workshop is conducted directly as a laboratory for the application of GS methodology. Outside the context of the seminar-workshop itself, it may be difficult to grasp the relevance of these formings as the consequence of applying such principles as *non-identity, visualization, silent levels, orders of abstraction, process of abstracting, consciousness of abstracting, etc.*

The two works reproduced are results of a gradual displacement of the tendency towards *identification*. Here the exercise was to employ 'letters' as

shapes found in a magazine, and to use them as material for experiencing sensory-visual order, rather than as 'words.' In fact we are able to refer to the lab as a workshop in visual, non-verbal abstracting, and in this way the products relate to the general symbol-forming processes implicit in general semantics.

Very few of our students come from the fields of the arts, and most have very severe feelings about their abilities and limitations to express themselves with any form of 'artistic' mediums. ("I can't draw," "I can't carry a tune," "I can't dance," "I can't ... ") Thus the workshop becomes an elegant ground for applying the methodology from standpoints of self-involvement, self-discovery, and self-appraisal. It also permits the correlation of individual and social dynamics with learning processes and situations.

It has always been a pleasure to me, in my six years at these seminars, to be able to work with a group of people who have the common denominator of general semantics as an evaluative frame of reference. This mutual denominator seems to give the unusual ability to work simultaneously at two conscious levels: to be able to become individually and experimentally involved in the field of visual abstracting, and at the same time to be able to examine and realize the implications of this activity in a comprehensive manner.

General semantics makes a clear and sharp distinction between the ways we *verbalize* about the total process we call *life*, and the *process itself* — which *is not* verbal. Through this emphasis we become capable of communicating a new, inclusive dimension for understanding the forms and systems of human behavior. We can become free of the static stereotypes and dogmas characteristic of the linguistically naive. As we become clear about the structural differences between systems and means of representation and the events they refer to, blockages — both individual and social — quickly disappear. We become capable of evaluating the limitations of verbal and non-verbal forms of behavior and their effects upon us.

By establishing a consciousness of abstracting and scientific methods of representing and communicating the processes of abstraction, Korzybski provided us a common denominator of culture — that is, human behavior at its best. Insofar as this methodology is entirely generalized concerning human behavior and evaluation, it includes "modern art." In this relationship it can be stated that most of the confusion, argument and prejudice in this field dissolve rapidly under analysis with the use of general semantics.

From *General Semantics Bulletin Nos. 10-11*, Autumn-Winter 1952-1953. Harry Holtzman was Assistant Professor of Design, Brooklyn College.

GENERAL SEMANTICS IN TEACHING AN INTRODUCTORY COURSE IN AESTHETICS

MARIAN VAN TUYL

AT MILLS COLLEGE for the past two years we have been offering a survey of contemporary fine arts for freshman students. This course is an experiment in staff teaching with a co-ordinator carrying the large part of the teaching load. Faculty members from the various departments in the School of Fine Arts contribute one or more lectures on their subjects of specialization. The purpose of the course is to consider the various manifestations of the contemporary arts, their materials and media, similarities and differences, verbal and non-verbal character, etc. The methods employed include lectures, discussion, student reports, notebooks, and field trips, utilizing the facilities of San Francisco to augment the course-content with concerts, plays, art exhibits, etc.

The sequence of the survey proceeds from non-verbal to verbal communication. Following an introductory section, the dance is studied in relation to its characteristics arising out of movement as a means of communication of the experiences of one individual to other individuals. Then, in succession, periods are devoted to a similar consideration of music, graphic and plastic arts, crafts, drama, and literature.

In such a kaleidoscopic and brief survey of so many fields of human expression presented from the differing points of view held by specialists vari-

ously trained, the problem of helping the freshman student orient herself, and develop increasingly adaptable points of view is no small one.

So much intensional literature is published about 'art' in language so 'high-flown' and unintelligible that the freshman student is hopelessly confused if she endeavors to do any reading on the subject. There is much loose talk about 'beauty,' 'pure art,' 'emotion,' and 'intellect,' 'form,' 'content,' etc. Take the case of a youngster who arrives at the college from Klamath Falls, where patchwork quilts, The Lone Wolf, piano lessons, and a town music series consisting of one recital by Richard Crooks and a concert by the glee club from the state teachers college, together make up the 'art experience' of the community. She is likely to be considerably confused by passages such as this in her textbooks: "It is intensified expression in the subjective sense and in truth to medium, and it borders on abstraction ..." (1)

Since, with very few exceptions, readings in aesthetics abound in intensional language and since every artist and every teacher presents a different viewpoint and uses the same terms with obviously different extensional content, I have concluded that the only way to avoid semantic chaos is to incorporate an introduction to general semantics in the introduction to this course. (2)

We begin with a brief study of the human nervous system as the basis for experience and communication, thalamic and cortical areas, short and long nervous circuits, organism-as-a-whole reactions, delayed reactions, cortical differentiations, levels of abstraction, etc. A large portion of this section of the course is concerned with helping to establish an understanding of the multiordinality of the terms *abstraction* and *symbolization*. We are anxious that the student become conscious of *abstracting* as an essential characteristic of all experience, so that, later in the course when more than one lecturer will use the terms abstract art or symbolic art, representation, etc., students will be able to evaluate properly the instructor's use of the word through a recognition of the specialized context in which it is used. In connection with study of these terms, we use Kretchmer's *Medical Psychology* on sphaira, stylization, etc.

'Emotional art' and 'intellectual art,' 'beauty' and 'ugliness,' 'form' and 'content' are dichotomies which keep aestheticians busy and which totally confuse freshmen. Through the use of extensional methods we try to help the student discard two-valued orientations, and false-to-fact compartmentalizations. Stress is laid on the relativity of 'beauty' and the inseparability of 'emotion' and 'intellect.' Louis Danz's formulation of *form* as organization of forces is the one which is found most acceptable for our purposes. "Form is that kind of organization to which nothing can be added and from which nothing can be taken. A mathematical definition has form." (4)

The large part of the course deals with non-verbal forms of representation. In a world where so much stress is laid upon word symbols, this gives us a peculiar opportunity to convey to the student the vital, dynamic quality of non-verbal thalamic communication. That people generally do sense this is made apparent in such expressions as "too moved for words," "speechless with joy," etc.

In some quarters the term *semantics* covers only words and their 'meanings,' which would rule out most of our course as far as tying it up with *semantics* is concerned. If this is the proper and full meaning of the term, we can apply the 'rules' of semantics only to our talking about art and not to the actual 'art experience' or thalamic communication. On the other hand, general semantics as a general theory of evaluation is found to be applicable to our entire field, non-verbal as well as verbal.

We try to stress the fact that the organism reacts as-a-whole-in-an-environment, so that in highly affective communication of the non-verbal type there is a cortical component, which, with its potentialities for differentiation, makes for the exquisite discrimination and enjoyment of a given 'aesthetic experience.' This is in contrast to sitting in the concert hall and being aroused out of one's stupor only by the spinal shiver caused by a sudden cymbal crash.

Standards for criticism and judgment pose another difficult problem for presentation to the beginner. I am reminded of Virgil Thomson's classification of possible ways for a composer to earn his living, one of which was listed as the "art appreciation racket." (5) We hope to avoid being placed in the category of "racketeer" from our earnest endeavors with this course. And, if we do successfully steer clear of such a fate, it is in no small part due to general semantics.

It has been said that one's youth, 'artistically' speaking, can be described as being in direct proportion to the range of aesthetic experiences one can 'endure.' If this is so, some of our seventeen-year-olds are artistically well over a hundred. They don't know anything about *art* but they know *what they like*, etc., showing evidence of rigid thinking. So we endeavor to present a vivid picture of "culture lag." Although this is a course in modern art, we stress the time-binding human function of all artistic representation. With the hope that the student will broaden her horizon and avoid 'cosmic legislation' in the fields of the arts, we set up the following bases for judgment of a given art object:

1) direct contact with the object or event;

2) comparison of the object or event with others in the same class;

3) evaluation, which for the lay person may be summed up in the questions: Does it communicate anything to me? If so, what?

We emphasize the necessity for differentiation-recognition of the unique character of each art 'object,' as well as the impossibility of knowing 'all' about any art object. We make no endeavor to establish the arts as the equivalent of mathematics, but do make use of the extensional devices in talking about the arts. Dating, of course, is necessary and it will automatically delay an immediate judgment such as "beauty pretty pink curves!" as well as the "Beauty on Olympus swung free from the lowly human" notion, when the student reader sees the word *beauty* on the page. Each of the devices is found to be useful for our purposes in this course.

With this rather sketchy introduction to general semantics we plunge headlong into the specialized consideration of the various fields of modern art, as before mentioned. In the discussions following the lectures, we attempt to practise the extensional method.

The final section of the course is concerned with literature, at which time we use *Language in Action* by Hayakawa as the text. (6) In many ways, this is the most exciting period of the course. The 'fog' which confused the first of the course has lifted, and we realize that more was learned than we had suspected. The simplicity and clarity of *Language in Action* is a boon. Not one of the students has failed to derive much benefit from its study. The exercises in the construction of 'abstraction ladders' have been the source of delight and amusement as well as instruction. On the final examination the students were asked to write five short paragraphs using the techniques of:

1) slanting for,

2) slanting against,

3) map not matching territory,

4) affective communication,

5) directive language.

They all enjoyed doing this very much but gave away their personal biases in the way of girlish enthusiasms, pet peeves, etc.

I believe that, for the artist as well as for the student of aesthetics, Hayakawa's formulation of affective communication is extremely helpful. As a matter of terminology I find his use of the phrase "pre-symbolic use of language" confusing in the face of our belief that gesture, posture, movement, sound are all

symbolic forms of representation. However, if I have studied his book thoroughly and have come to understand his use of the term "pre-symbolic," then my very understanding of his use of the term in a special context does away with confusion and all I can say is that his definition of "pre-symbolic" and "symbolic" differs from mine, and communication is established.

In conclusion, may I say that our foremost purpose in giving this course is to help student$_1$, student$_2$, student$_3$, ... to increase adaptability to the 'world' in which she finds herself. As an aid for this adaptability general semantics is applicable. It provides a general theory of evaluation which includes the silent, organismal reactions of aesthetic experience as well as providing a correct-to-fact linguistic technique for the representation and communication of those experiences. In using this methodology to forward our aim, we have laid particular stress on the importance of a thorough understanding on the part of the student of the multiordinality of terms such as abstraction, representation, etc., for proper evaluation and unification of the conflicting vocabularies used by staff lecturers from various fields of the arts. It is my earnest personal conviction that the study of general semantics is of immeasurable aid in the accomplishment of our purpose.

NOTES

1. Sheldon Cheney, *Primer of Modern Art* (New York: Liverigbt, 1939), p.172.
2. General Semantics as formulated by Alfred Korzybski in *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics* (Second edition; Lancaster, Penn.: The Science Press Printing Co., 1941), and in his seminars at the Institute of General Semantics and elsewhere.
3. Ernest Kretchmer, *A Textbook of Medical Psychology* (London: Oxford University Press, 1934), p.94.
4. Louis Danz, *The Psychologist Looks at Art* (London: Longmans, Green and Co., 1937), p.80.
5. Virgil Thomson, *The State of Music* (New York: W. Morrow and Co., 1939), pp.121 ff.
6. S.I. Hayakawa, *Language in Action* (New York: Harcourt, Brace and Co., 1941)

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Marian Van Tuyl was Assistant Professor of Dance, Mills College, Oakland, California.

PRELIMINARY NOTES FOR A SEMANTICS OF MUSIC

STANLEY FLETCHER

JOHN SMITH, visiting New York for the first time, is walking down noisy Sixth Avenue with his New York friend, Jones. Smith stops, puts his hand on Jones' arm, and asks: "Did you hear that noise?"

Jones smiles tolerantly. "What noise do you mean?"

"I mean that *weird* noise."

Jones cocks his ear. "I don't hear any *weird* noise. How do you mean — weird noise?"

"I mean that *weird* noise high above the rest."

Jones laughs. "Oh, there's nothing weird about that. That's just the whistle on a peanut roaster down the block."

Suppose your car engine is not running right. You take it into the repair shop. The garageman opens the hood and sticks his head in. He turns to you and says, "I know what it is. Do you hear that noise?"

You hear the motor turning over. As you take your weight from the running board, the body squeaks. There is a faint whirr from the fan. You hear a whole context of sound, nothing unusual. So you ask him, "What *noise* do you mean?"

He says, "I mean that noise that goes: clickety-click-clickety-click-clickety-click. Can you hear it?"

Yes, now you can hear it.

On each of these occasions the first speaker succeeded in directing attention to what he was talking about, so that the object of discussion was extensionally defined for both parties. Notice that on each occasion the speakers were listening to the same context of sound. But from that same context one abstracted a sound that the other did not. If Smith had been looking *at* something, instead of listening *to* something, he could have pointed to what he meant. But in a context of sound there is no such easy device as pointing. He had instead to indicate limits within that context somehow. Your garageman abstracted from the context the *rhythm* of the particular noise that he wished to 'point to,' and that worked. Smith, after a futile try at getting together with Jones by reference to *his own feeling about* the noise he was abstracting, finally gave directions according to the *pitch-relationship* between that particular noise and the rest of the sound-context; and that worked. Both Smith and the garageman succeeded in defining extensionally what they meant in spite of the fact that they could not simply "point to it."

When the context of sound is a musical composition, we are faced with a situation similar to these, though more complicated. Not only is the context of sound much more complex, but the affective factors in the musical experience may be powerful, and we are even more likely to answer the question, "What noise do you mean?" as Smith first did, with words which only report how we felt about it. A musical discussion may go like this:

"Do you remember that *haunting* passage in Strauss' *Heldenleben*?"

"Haunting passage? What haunting passage? I don't remember any haunting passage."

"Well ... " And the subject is dropped.

Anyone who has attended a concert knows the violent disagreements that can ensue. People collect in groups at intermission to make expressive noises together. One group is purring happily: "Wasn't that new symphony wonderful? Wasn't it perfectly beautiful? Wasn't it marvelous!" In another corner are the growlers and snarlers. "Did you ever hear anything quite so bad as that new symphony by Smithkofsky? It isn't even music!" If by chance one of the purrers gets into the circle of snarlers and growlers, either he flees in desperate search of more congenial company, or else there is a terrific argument, Of course it does not end in agreement. Each one knows his own 'feelings' perfectly well.

Usually such arguments, if the participants stay friendly, are finally dismissed with some such remarks as, "Well, every person to his own taste." (Though there is likely to be the silent addition, " ... but yours is lousy!") Some-

times it is said more poetically: "Music is like Cleopatra — she is all things to all men."

However, there is a possibility that it is not "just a matter of taste." Oftentimes music that is vociferously rejected by a majority of listeners on first hearing is ultimately accepted by almost everybody. This could suggest that there may be another reason than "just taste" for such sharp dissension. Isn't it possible that what the two opponents heard was actually a very different musical structure; that they are like witnesses at the scene of an accident, whose testimony conflicts because there were so many aspects to the situation that each could abstract an entirely different pattern? Because of the tremendous complexity of the musical context — all of which is relevant — is it not very likely that the expressions of such divergent feelings were prompted by an abstraction from that whole context quite different in structure for each listener? We must find some way of determining whether we are talking about "the same thing" — some way of 'pointing.' For if we are not talking about "the same thing," our talking may be futile.

There is naturally as much confusion likely among the verbal abstractions employed in musical discussion as there always is where verbal abstractions are tossed around. There is likely to be even more than usual because of the strong affective reactions that music arouses. In such a context words are doubly treacherous. For instance, while it is fairly obvious, that such words as *beautiful*, *wonderful*, *marvelous*, *haunting*, *vital*, and *romantic* have a purely affective reference, it is not nearly so obvious that such apparently technical terms as *dissonance* and *climax* have affective components also. "The dissonant intervals," according to my music dictionary, "are the seconds, sevenths, and all augmented and diminished intervals." But that was dissonance_{1905}. Until a few hundred years ago, thirds were also dissonant intervals.

On the other hand, any popular dance orchestra of today frequently finishes a performance with a minor seventh, to everyone's obvious satisfaction. Moreover, anyone with a 'modern' composer among his acquaintances, knows that dissonance can differ considerably with contemporary individuals. $\text{Dissonance}_{\text{Irving Berlin}}$ is not $\text{dissonance}_{\text{Igor Stravinsky}}$, which is not $\text{dissonance}_{\text{John Smith}}$ at all. And Mr. and Mrs. Concertgoer who exchange an understanding glance at the climax of the Beethoven Fifth symphony could not get together with the Tired Business Man sitting behind them, completely unmoved, waiting for the cymbal-player to get up and do his stuff. He knows a *climax* when he hears one, for he has heard Ravel's *Bolero* — now *there* was a *climax* for you! But then even Mr. and Mrs. Concertgoer might not hear *climaxes* in Gregorian Chant.

But I am not primarily concerned with problems of verbal abstraction just now. There is a tremendous field for differences in abstraction before verbaliz-

ing begins, differences in sound-structure which for each individual seem "to be actually there" to be 'pointed at' when someone asks, "*What noise* do you mean?"

I should like to have you try for yourself a simple technique for extensionalization to verify these differences.

Let someone else play two tones on the piano, simultaneously. Can you hear the *lower* one, apart from the *higher* one?

Have him play three tones. Can you hear the *middle* one? (If you think this is easy, try singing it then check to see if you were right.) He plays more than three tones. How many can you hear?

Have him beat on the table a fast rhythm, with steady accents. Can you count the number of heats between the strong accents? How fast can it be before you have difficulty?

Notice that there have been no terms used except simple structural ones. These are simple problems in distinguishing the relationships of a very simple musical structure, the relationships according to the distribution which we label *rhythm*, and that which we label *high* and *low*. Any musical composition is infinitely more complex in structure than these examples, but it can be found that even people who have been associated with music (and verbalized about it with confidence) for years are none too sure of making these rudimentary differentiations. You are comparatively well extensionalized if you can tell the number of voices in a fugue at first hearing, or distinguish, without looking, which instruments of the orchestra are playing. If you cannot, then there is a good possibility that your affective reactions are based on only a small part of the whole musical structure. And discussion of "the music," like the discussion of the elephant by the four blind men in the old tale, has no chance of "making sense" because it started from different abstractions and evaluations.

Without the assurance of the ability to make these simple discriminations, a knowledge of music theory only makes matters worse, for such knowledge is then purely verbal. It does little good either to practise recognizing *themes*, as students in music appreciation classes do, for that only makes it all the more likely that one will hear little else. The student is almost sure, when he comes to hear an unfamiliar symphony, to sit through it wondering desperately, all the time, "Button, button, who's got the second *theme*?"

Assuming that we can make some of these basic simple abstractions, how are we to be sure that our evaluations of a larger musical structure take in the full extent of that structure, that something of the composer's created pattern has not been left out of our abstraction? We need desperately a 'map' which will indicate the extent of the musical 'territory' in terms of these elementary relationships: *high-low, fast-slow*, etc.

It happens that there always is such a map available; but most people are terrified by it, because it has always been thought useless to any except well-trained musicians. It is the musical score. The musical score functions as a map which indicates very clearly to anyone *how many* sounds are to be heard, whether they are *high* or *low*, whether they progress *up* or *down*, which ones are moving *faster*, which *slower*, and *which instruments* are playing them. The only technique necessary is that of being able to interpret the notation of time-values, and to follow the measures with the eye (with a pointing and tapping finger if it helps) along with the strong beats of the music. And this can be learned quickly by anyone with a rudimentary sense of rhythm.

It is not necessary to be able to tell from the score in advance, as some musicians do, just what the sounds will be. We can use the score simply as a means of checking as to whether there is something we are not hearing, and for an indication of whereabouts in the *heard context* to listen for it.

It would be well, of course, to begin with not very complex scores, like Prokofieff's *Peter and the Wolf* or Borodin's *Steppes of Central Asia*, and to be certain of a Mozart symphony before tackling a Beethoven. Also, it is to be expected that this may temporarily interfere somewhat with one's pleasure in the music. But experiments which I have carried on with musically untrained people show that more complete abstraction of the whole musical context is possible by this means and is subsequently accompanied by an increase of pleasure in the musical experience.

It may be next to impossible for anybody to 'register' all the relationships of a musical composition in one hearing, or in many hearings. But the technique of following a score does let us know how much we are not hearing, and it makes us able to 'point' in the direction of the extensional musical context when there arises some form of the question, "What *noise* do you mean?"

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Stanley Fletcher was Assistant Professor of Music, University of Illinois, Urbana, Illinois.

HOW SCIENTIFIC IS SOCIAL SCIENCE?

RAYMOND W. MACK

HOW *scientific* is social science? It seems to me that the way to address this question is to determine what we mean by "science" and by "social science" and then to see to what degree each of the several so-called social sciences meets the criteria of our definition — in other words, to what degree the field is scientific.

What is the unifying factor which leads us to classify certain bodies of knowledge as sciences? It is the way in which the body of knowledge was obtained; the unity of the sciences lies in their method. Knowledge obtained by this method is referred to as scientific; men who utilize the method to add to a body of knowledge we call scientists; a body of knowledge compiled by the method is designated a science.

The scientific method itself consists of seeking knowledge on the basis of three assumptions. The scientist does not say that no data gathered outside this framework can be true or useful; he does claim that only knowledge gained in this manner is scientific. To proceed scientifically, he assumes that:

1. The most reliable method of *gaining* knowledge is through the human senses: sight, hearing, taste, smell, and touch. When a person "just has the feel-

ing, deep inside him" that the Cleveland Indians will win the World Series in 1959, he does not have scientific knowledge. When Aristotle assumed that a horse had a certain number of teeth because that seemed a reasonable number of teeth for a horse to have, he did not add to scientific knowledge. Had he looked inside the mouths of some horses to find out how many teeth were there, or reach inside to touch and count them, he would have had a scientific datum, straight from the horse's mouth. It is true that scientists often use instruments in their data-gathering, but these are nothing more than devices to aid them in their sense perceptions. The most refined of gauges must be read by a human eye if it is contribute to the storehouse of human knowledge. The thermometer does not feel a temperature; the ruler does not measure a distance; the stethoscope does not hear a heartbeat. Each is an auxiliary to the human senses, but it is the eye and ear of the person using them which makes of their sensitive indications a scientific observation.

2. The most reliable method of *organizing* knowledge is through the use of human logic. There is a widespread belief that scientists are persons who "let the facts speak for themselves." Facts never speak for themselves, if by this it is meant that a datum has meaning without interpretation. Facts have no meaning unless they are presented as statements of relationship to other facts. During our lives, each of us has acquired a considerable store of knowledge which he is accustomed to bring to bear upon each new fact he acquires. It is easy, therefore, to be unaware on many occasions that our human brains are cataloging the newly presented information with reference to other information which we already possess. If, for example, a friend informs us that the temperature outside today is 74°, we are inclined to think that this fact is meaningful all by itself. Actually, it would take pages to list all the facts to which we relate this one. First, obviously, each word in his sentence has a meaning to us because we were socialized in a culture where English is the standard language. Then, too, we are familiar with a Fahrenheit scale for measuring temperatures, and are aware that it is customary in ordinary conversation to refer to this scale rather than to a Centigrade one. We know that water boils at 212°, that it freezes at 32°, that normal room temperature in our society is about 68°. Our reaction that it is unseasonably warm today, or unseasonably cool, or about what one would have expected, indicates a knowledge of the time of year, the geographic location, and some information about temperatures in this area at this season in previous years. This simple illustration points up what we mean when we refer to a science as a body of knowledge: it is a body because it consists of facts which have been organized in relation to one another by human reason.

3. The most reliable method of *checking* knowledge involves the independent conclusions of other competent observers. The reason we sometimes have to wait so long to gain access to the startling medical discovery announced in the *Reader's Digest* or some other well-known medical journal is that a relationship between facts seems apparent in the experience of one competent observer, but it has not been validated by others, and hence is not yet accepted by scientists as part of a body of scientific knowledge. It is not unknown in human experience for one observer to see small winged beings descending from the clouds, to hear them speak to him, and even to touch them. But because other competent observers cannot see or hear or touch them, their existence cannot be accepted as a scientific datum.

In summary, then, when: an observer gains knowledge through one or more of his senses; and he uses his human reason to interpret his observation (i.e., relates it to other facts); and other persons sufficiently well trained in the area being studied see or hear or touch or smell or taste the same things as the first scientist and, using their human logic, organize the knowledge they have gained in the same way as the first observer (i.e., reach the same conclusions), we have a scientific 'fact.'

Having answered the question, "what is science" (at least to the satisfaction of the writer), we are faced with the question: can there be such a thing, then, as social science? By "social sciences" we mean those bodies of knowledge compiled through the use of scientific method which deal with the forms and contents of man's interaction. To be social is to interact, to participate in group life. It is true that textbooks in the social sciences sometimes detail the social interaction of living beings other than humans, such as ants or apes, but this is usually for the purpose of illustrating, drawing analogy, or in some way attempting to understand better the social behavior of human beings.

All human beings are social. People have to interact with other people in order to survive. Since all human beings live in a society, which is to say that every person is a member of some human group, it is just as reasonable to speak of a social environment as to talk, as people more often do, of their physical environment. People are, after all, much more profoundly influenced by their social surroundings than by their physical ones. The three-year-old son of a steel mill laborer in Pittsburgh who is taken from his home and reared by foster parents in a steel mill laborer's family in Birmingham, England, will not only talk and act differently than he would have had he remained in Pittsburgh; he will even think differently. The change in his physical environment will have been minimal; the alteration in his behavior will be traceable to the difference in the two social environments. As the physicist, the chemist, the astronomer,

the biologist study the universe in which we live and the elements of which it is composed in an attempt to understand our physical environment and to predict what will happen in a given set of circumstances, so do social scientists study the social environment in which we live in an attempt to understand human society and to predict how people will interact in a given set of circumstances.

Can there be such a thing as social science? There are those who answer, "No!" I have here in my hand (as it seems fashionable to say) a statement by Raymond Moley, whose views on this matter will probably not surprise those of you acquainted with his views on other topics. In his column in *Newsweek*, Mr. Moley says:

> ... foundation-supported research should probably limit itself to the field of health and the more exact physical sciences. When foundations enter the still cloudy field of what is quite incorrectly called "social science," they ask for trouble. For such investigations almost certainly get into ideological and controversial matters. Since every dollar spent by a tax exempt foundation must be made up by the generality of taxpayers, those who strongly disagree with the point of view of the foundation can well object to a requirement that they contribute thereto.... Tax-exempt foundations might well limit themselves or be limited to the war against disease, to the natural sciences, and to grants without strings to established institutions devoted to higher education, religion, or true scientific research. (1)

My answer to the question, "Can there be social science?" is, "Why not?" We can observe human beings; we can organize the data which we observe; we can have them checked by other competent observers. Why not social sciences? Other than to say "There is no reason why not," there are only two answers to my question, as far as I know. One is a matter of one's personal belief system, which can be answered pragmatically to my satisfaction, but not, I hasten to admit, to everyone's; the second answer to the question reveals, not a different belief system, but simply ignorance.

One set of answers in opposition to the application of the scientific method to the understanding of human beings boils down to this: God did not intend us to understand man; it is evil to attempt to do so. This is the same point of view that was expressed in criticism of Galileo for studying the physical universe. New knowledge is always threatening to vested interests; we are less than sophisticated if we express surprise, much less horror, at opposition from persons and groups to the pursuit of knowledge. It was only three decades ago that a teacher was tried in court in this country for teaching his students the theory of evolution. This trial occurred after Einstein had published his now-famous for-

mula; it occurred in the lifetime of Luther Burbank. We do not have to lean on Galileo or other medieval examples for this point. Last year a lady came to Northwestern University and withdrew her 20-year-old son from one of my classes because the textbook mentioned the theory of evolution. If you believe in a God who created man slightly higher than the beasts and slightly lower than the angels and who looks upon the study by such a man of the behavior of his fellows as a moral outrage, then I have no answers for you other than those to be found in the historical development of man's thinking on this topic. I can disprove by the scientific method neither the existence of such a God nor his disapproval of social science.

The other usual objection to the existence of social sciences, which I characterized earlier as revealing ignorance, is that there cannot be social sciences. Sciences of social life are impossible, say the proponents of this view, because human nature is unpredictable. You cannot generalize about how humans will behave. This would be a very damaging argument except for one thing: it is not true.

The social behavior of human beings is patterned, and hence can be described in general principles. All societies are structured, all societies are stratified, all societies implement a division of labor on the basis of age and sex: these are general sociological principles. (2) Anthropology offers similar principles of culture: all societies have value systems, consisting of ideal patterns which are taught each member of the society, and normative patterns, which are actual behavior; all cultures exhibit some degree of variance between the real and ideal patterns of behavior. (3) Psychological research indicates that all societies have persons who deviate from the norms, all societies contain individuals with varying capacities for learning; individuals in all societies feel hostility, and if one hostility-focus is removed, they will find another. (4)

The above are general descriptive principles; more important for our case that social sciences already exist is the ability in various fields to make predictive statements: if this, then that. When one culture is exposed to another, new technology will be diffused faster than new value patterns — the principle of cultural lag. (5) As a social group loses functions, it will lose stability: a brief description of the modern urban-industrial family. (6) People will migrate a distance which is inversely proportional to the number and magnitude of intervening economic opportunities. (7)

Finally, and probably most convincing to the layman, it is possible to predict specific behaviors in a certain society at a specific time. The population of the U.S. in 1950 was predicted on a percentage increase basis to a decimal of accuracy in the 1920s. (8) We can give paper-and-pencil questionnaires to con-

victs and predict recidivism and success among parole applicants. (9) Burgess and his associates have designed questionnaires on the basis of which they can predict the probable marital success of engaged couples. (10) Production rates in industrial environments can be altered by the implementation of changes in personnel policies. (11)

I am saying that there not only *can* be social sciences, there *are* social sciences. I have still not addressed the question: *how* scientific are the social sciences? The answer, of course, is that some are more scientific than others. The social sciences have come a long way in the past three decades, and they have a long way to go. Among those which have the longest way to go are those schools of political science whose primary concern is scolding (or attempting to reform) the world from the point of view of private sets of values. In some areas of economics (for example, market research), psychology, and sociology, there has been marked progress in scientific rigor and predictive power, largely because of a willingness to employ quantitative techniques. But as for those areas of the social sciences which are not yet sufficiently scientific, what are the deterrents that are holding them back?

The first deterrent to progress in social science — and in the past the most important — is ethnocentrism. Members of any society tend to believe that their way of thinking, their way of doing things, is not only the best but the 'right' way. The Navajos refer to themselves as "people" and to all outsiders as "others"; Jews have classified all others as Gentiles; in ancient Greece there were only Greeks and Barbarians. The belief that one's own way of thinking is the proper way still influences the social sciences. Last week I heard a political scientist in a curriculum discussion say that his job was to guide his graduate students into the execution of research projects which would "prove that democracy is the best form of government." I happen to believe that democracy is indeed the best form of government, but I do not think that this sort of research design is going to advance social science. There is no such thing, scientifically speaking, as Catholic sociology or bourgeois genetics, and until social scientists free themselves from this mode of thinking, there will be obstacles to scientific progress.

A second deterrent to scientific research is the confusion of engineering with science. Scientists assume that any knowledge, whether or not it is "practical," is worth while. There is a crucial difference between the scientist, who discovers knowledge, and the engineer, who applies it. The physicist discovers the laws of mass and volume; the engineer applies them in constructing a bridge. The social worker does not test hypotheses in order to evaluate a scientific theory; he applies the knowledge presented to him by sociologists and psy-

chologists. In other words, he is a social engineer. No invidious comparison between scientists and those who apply scientific knowledge is intended. I am saying simply that pressures upon scientists to engage only in "useful" research can do much to deter the development of science.

A third deterrent to the development of social science is often erected by social scientists themselves — or else by their over-enthusiastic disciples. I refer now to crazes or fads for certain techniques or approaches. Consider, for a moment, the Rogerian school of non-directive interviewing as a research device and non-directive therapy as an applied or engineering technique. (12) I do not deny the utility of these techniques, either in research or in therapy. It is possible, however, for one to become so exclusively enamored of a technique (as are some of Rogers's disciples) that he can see no other way of approaching a problem. Instances of dogmatic over-enthusiasm are likewise not unknown among students of general semantics. In all such cases, science is the loser, for designs and techniques are matters of strategy, not morals.

A fourth impairment to social science I would call *conceptual inefficiency*, the employment of concepts with vague or untestable referents. A necessary requisite for the emergence of an exact science is a clear and unambiguous terminology. I have already cited the hazards of equating the implementation of principles, or engineering, with the discovery of principles, or science. Psychoanalysis, for example, is still largely a technique, an engineering practice, a case of the implementation of principles which have not always been precisely formulated. Almost classical examples of entrapment by inefficient concepts can be found in its literature. (13) The misleading images conjured up by such concepts tend, inevitably, to dominate the beliefs.

I do not mean to suggest that solid empirical research has not been accomplished within the framework of Freudian psychology. That Freudian concepts can be given empirical referents, that they can be operationally defined, is adequately illustrated by such fine scientific work as that of Winch and his associates. (14) This, and other endeavors of like caliber, are pioneering work, expanding the frontiers of social science. There is a real danger, however, in lumping with this work non-scientific pursuits which have been incited by Freudian writings, as the public is wont to do. As long as engineering activities, such as psychoanalytic therapy, are confused with science, they will serve to impede the progress of science.

I will mention, briefly, only two more deterrents to the development of social science. The first is a tendency to substitute *exactitude* for *meaningfulness* — in other words, to follow the safe course by studying what is easy to study, even if this means ignoring problems which are more pressing for the

furthering of theory because they are harder to solve. Psychology is probably the worst offender here, though many sociologists are making a noble attempt to hold onto second place. This tendency is summed up in a comment contrasting the exactitude of American social science with the European tendency to grapple, however, inexpertly, with basic theoretical problems. It has been said that the European social scientist doesn't know what he is talking about, which is a great deal, while the American knows precisely what he is talking about, which isn't much.

The final deterrent to scientific endeavor in the area of human interaction is an unpleasant one to have to mention: it is fear. The view is growing that one is wise to avoid *controversial issues*: a redundant term, since if a topic is not controversial it is not an issue. Issues cannot be omitted from science except through falsity, distortion, and concealment. If an issue is presented as though it were not one — that is, as if there were only one side to it, that is not science, it is indoctrination. The intimidation of foundation research programs attempted this year by the Reece Committee — the intimidation of research scientists at Harvard attempted by Senator Joseph McCarthy — these do not bode well for the development of a vigorous social science research program in the United States. If we really want social science, we must, as citizens, demand the fairest possible exploration of all sides of a social problem. Such exploration is not fostered by vocal pressure groups who want only *their* side presented and who are able to threaten with possible loss of his livelihood and reputation anybody who suggests that there is another side.

If we really want social science in this country, we will have to insure social scientists the freedom that their work demands.

NOTES

1. Raymond Moley, "The Foundation Investigation," Newsweek (December 20, 1954), p.204
2. Kimball Young, *Sociology, A Study of Society and Culture*, Second Edition (New York: American Book Company, 1949), pp.465-540.

3. John W. Bennett and Melvin M. Tumin, *Social Life: Structure and Function* (New York: Alfred A. Knopf, 1949), pp.223-258; Kingsley Davis, *Human Society*, (New York: The Macmillan Company), pp.52-82.
4. Bennett and Tumin, *op. cit*., pp.306-313, 365-367; Robin M. Williams, Jr., *The Reduction of Intergroup Tensions* (New York: Social Science Research Council, 1947), pp.49-77.
5. William Fielding Ogburn, "The Hypothesis of Cultural Lag," in Logan Wilson and William L. Kolb (eds.), *Sociological Analysis* (New York: Harcourt, Brace, 1949), pp.111-116.
6. Davis, *op. cit*., pp.392-432.
7. Samuel A. Stouffer, "Intervening Opportunities: A Theory Relating Mobility and Distance," American Sociological Review, 5 (1940), pp.845-867.
8. P.K. Whelpton, "Population of the United States, 1925 to 1975," *American Journal of Sociology*, 34 (1928), pp.253-271.
9. Sheldon Glueck and Eleanor T. Glueck, *500 Criminal Careers* (New York: Alfred A. Knopf, 1930).
10. E.W. Burgess and Leonard S. Cottrell, *Predicting Success or Failure in Marriage* (New York: Prentice-Hall, 1939); E. W. Burgess and Paul Wallin, *Engagement and Marriage* (Philadelphia: J.B. Lippincott, 1953).
11. Delbert C. Miller and William H. Form, *Industrial Sociology* (New York: Harper, 1951).
12. Carl Rogers, "The Non-directive Method as a Technique for Social Research," *American Journal of Sociology*, 50 (1945), pp.279-283.
13. An excellent review of such examples can be found in Robert E.L. Faris's review of E. Pumpian-Mindlin (ed.), *Psychoanalysis as Science: The Hixon Lectures on the Scientific Status of Psychoanalysis* (Stanford: Stanford University Press, 1952), in *American Sociological Review*, 18 (1953), pp.437-439.
14. See, for example, Robert F. Winch, "The Theory of Complementary Needs in Mate Selection: A Test of One Kind of Complementariness," *American Sociological Review*, 20 (1955), pp.52-56.

From *ETC* 12-3, Spring 1955. This paper was presented at the annual dinner of the Chicago Chapter of the International Society for General Semantics, December 28, 1954. Raymond W. Mack was Associate Professor of Sociology, Northwestern University.

GENERAL SEMANTICS AND THE TEACHING OF MATHEMATICS

IRVIN H. BRUNE

LANGUAGE PROFOUNDLY AFFECTS behavior. Sear the student with "Wrong again, Jones," and you may settle it — Jones quits the course. Challenge him with "Show us your reasoning, Jones," and Jones may find his own mistake — and henceforth check his logic *before* he commits himself.

Your approach, of course, depends on your purpose. Possibly Jones should drop out early, if the course is elective and Jones merely holds a place. Possibly he was ill-advised to enter the work anyway. But it may be that Jones is a scholar in the shell, a person with potential. If you can imbue him with estimate-and-evaluate, with try-and-see, with check-and-prove, he may catch fire. In this age of science, salvageable students should not be sneered out.

The present piece seeks to illustrate how a few principles of general semantics bear on teaching and learning mathematics. Since such considerations affect people of all degrees of maturity, the examples appear without reference to the learner's age or stage. You can readily adduce further instances appropriate to the levels that concern you. Merely a look at some formulations concerns us here. Sensitivity to principles becomes our goal.

Awareness

Language makes, or mars, communication. Many teachers count this as obvious. They chose the profession because they like to explain things. They enjoy the work because they can communicate well. They prefer teaching because it lets them express themselves.

Mathematics teachers realize, too, that their knowing mathematics is at least a necessary condition for their teaching it. Besides, since otherwise their knowledge would stagnate, their knowing requires further studying. They therefore grow more and more conversant, and more and more fluent. Said chain of events, indeed, can foster glibness.

Accordingly, the well-prepared teacher, the scholar who likes to explain, may unwittingly lose sight of the effects of words. He may not have dreamed, for example, that his aside about *dependent equations* fell on ears that heard, but perceived not. Indeed, the hurried comment (what teacher ever regaled in abundance of time?) came through as *deep-ended equations*. And his bewildered listeners could only conclude that the whole subject was, in fact, too deep.

This first observation, then, bespeaks awareness. The subject the teacher of mathematics professes comes in language that is concise, correct, cogent. As an example, "The number of a class is the class of all those classes that are similar to it." Patently, then, the teacher's job has to do with clarity. Is his terse, precise, and valid language also clear? Is he aware that, although his message is logic itself, his sentences may skid off his pupils' heads?

Abstracting

Why does language, man's means to an ever higher civilization, also at the same time fail to communicate?

Philosophers, although avowing their purpose to look at life and see it whole, nevertheless seldom balk at a scrutiny of its bits. Life's elements, as seen today, appear to be events. To be is to happen. For even the most inert material really houses a 'whirling dance of electrons.'

Thus all is action; all is change. And new situations teach new lessons. Comfortable adjustments slip away; new problems challenge, or impel, human beings to seek further adjustments. Indeed, man inevitably *learns* as he solves the problems a changing world repeatedly plops into his life.

Moreover, despite their aims, not even the philosophers see life whole. A person's reports thus necessarily lack completeness; he communicates those aspects he perceived. Depending on his background, his tastes, his attitudinal

set, and so on, he abstracts elements significant to him. But he does not report all that the situation involves — electrons elude him! Absolutely to tell the truth, the whole truth, and nothing but the truth merits men's best efforts, but it cannot come to pass. "Life is real," but 'reality' defies description.

A pupil, for example, draws a circle. In it he constructs a vertical diameter and a horizontal diameter. Then he chooses a point on one of these diameters, erects a perpendicular there, and extends it to the circle. Then, from the point thus obtained, he constructs a perpendicular to the other diameter. And, from the point determined there, he draws the join to the point originally chosen. How long is this join?

In the first place, does the foregoing description register? It reports exactly what happened. Some can 'see' both the pupil and the construction. We abstracted what seemed, to us, to be essential elements. Others, however, who hear this description or read it in their usual manner (everybody is in a hurry these days, it seems) would hardly rate it as excellent communication. Where is the drawing? What is the circle's name? How are the diameters designated? Couldn't the various points be clearly labeled? Where is the segment in question?

Some would supply these, and other, improvements. Some would doubt that they are improvements. Others would report the same happening in a greatly different manner. Sending and receiving even a simple message involves the sender's and the receiver's likely-to-be-somewhat-diverse abstractions.

Let us proceed, however, on the assumption that the receiver, somehow, understood the message. For teachers sensitive to the imperfections of language, teachers aware that clarity as the teacher sees it may differ greatly from clarity as the pupil sees it, do of course detect, and correct, gaps in communication. It is agreed, then, that the pupil has constructed the figure himself. Will the question, 'How long is the segment?' elicit a ready answer? From reports (imperfect, again) from several teachers who have tried this simple exercise with high school pupils, the answer seems to be no. What most pupils tend to abstract from the situation does not include the obvious answer.

The word *obvious* incidentally, appears, in itself, to be an incomplete report. It lacks answers to the appropriate accompanying queries, "to whom?" and "when?" To Fermat, for instance, 100895598169 obviously was not a prime, but the product of 898423 and 112303. On another occasion, furthermore, Fermat left the equivalent of 'obvious,' *to him*, in the margin of one of his books. "If *n* is a number greater than 2," he wrote, "there are no whole numbers, *a, b, c*, such that $a^n + b^n = c^n$. I have found a truly wonderful proof which this margin is too small to contain." This specific case of the 'obvious' has caused mathemati-

cians more than three centuries of investigation. And the proof still eludes them. [Or did, until Andrew Wiles in 1994 — Ed.]

Returning to the main point of this section, we note that mathematicians, like experimental scientists, report abstractions. The scientist reports principles abstracted from situations controlled as completely as possible. Other researchers can repeat such studies and verify similar abstractions for themselves.

The mathematician, however much initial experimenting he may do, sooner or later controls the situation completely. Eventually he constructs a system — a set of undefined terms, a set of definitions, a set of postulates, and a set of theorems. Of these sets, only the first three tend to contain a finite number of elements. But a set of theorems, of course, may grow and grow. Even a structure as old as the geometry of Euclid affords its devotees opportunities for abstracting still further theorems.

Similarly, teachers in their mathematics classes encourage pupils to deal with abstractions. Like scientists, pupils encounter problems. By experimenting, counting, measuring, applying some mathematical model(s), and so on, they solve those problems. Class discussions enable the pupils to verbalize those items they abstracted from each instance, each situation. Under teacher guidance, pupils abstract properties, relations, conclusions. Eventually, as pupils organize their findings, a mathematical system results. For, granted certain postulates, certain theorems logically follow.

In sum, teachers who help pupils to become *conscious of abstracting* really contribute to three educational outcomes:

1. Pupils appreciate better how scientists work; how they select relevant elements; how they infer.
2. Pupils see mathematics as abstract systems. By erecting their own structures in their own notebooks they come to understand how mathematicians work.
3. Pupils become sensitive to the strengths and weaknesses of language. They recognize both the boons and the banes of communication. Willy-nilly they share discoveries; only thus does civilization proceed. With sophistication they root out imperfections; only thus does language improve.

Context

'Reality' comprises events; it is a process. Existence implies changes; it is a complex. To describe accurately even a few of life's infinity of elements,

therefore, would require a perfect language. This would be a set of symbols representing every object, every person, every relation, every act, and so on. It would provide precision.

Mathematical language could serve nicely for this. Primary symbols, for example, could designate *genera*; superscripts could show *species*; subscripts could indicate *individuals*. Thus the mark H^{VI}_{101} could signify book 101 on the accession list of the branch library in Ward VI in Hoboken. Similarly for people and places.

Relations and acts could match symbols such as *r1, r2, r3*, etc. Every event, being unique, would have its unique symbol, and, conversely, every symbol would represent exactly one event or construct.

Such a system might intrigue people, just as non-decimal notation and Esperanto fascinate them. But objections also shine through. Life is change; life is a process; life is an infinity of events. The perfect language, even though recorded only on microfilm, would ultimately perish for want of storage space in which to survive. It would perish, moreover, due to almost instantaneous obsolescence. Miller in 1959 differs from Miller in 1958. Events, even when similar, are nevertheless unique. Relations alter. So words, like bees that lose their stingers, would, after reporting a single event, succumb. And the so-called perfect language would die aborning.

The alternative to a single-entity-unique-symbol system surprises no one. A word often stands for many different meanings or values. It has long been thus. The receiver of a message interprets numerous symbols via context. Many-valued terms, that is, make sense according to the sense of the words they keep company with.

All of this is old hat. No one confuses *run* in hosiery with *run* in determining the pitch of a roof. *Group* in arithmetic differs much from *group* in modern algebra. So, too, for an ordinary *ring* and an algebraic *ring*.

But other many-valued terms can, and do, foment confusion. The *roots* of $x^2 + x = 225$ differ from the *square root* of 225. Children drilled to associate *remainder* with *answer* in subtraction may get tangled with *remainder* in division. *Sum* referring to a subtraction Alice did for Humpty Dumpty may seem strange too. *Cancel* all too frequently creates confusion. Is *adding, subtracting, dividing*, or just plain scratching involved?

The list could go on and on. *Statistics* may mean factual data, or *statistics* may mean a system of analysis. A 'billion' USA is not a British 'billion.' Even the seemingly unambiguous decimal point represents a multiplication, in British usage. On the Continent, moreover, the comma, instead of helping in numeration, serves as a decimal point. As with Humpty Dumpty's words, symbols mean what their users choose them to mean.

Without citing further examples we come to our point: pupils need to be aware of *context*. Rarely do words have one and only one meaning or value.

If, therefore, context is neglected, textbook verbal problems and problems which pupils couch in their own words escape proper analysis and correct translation. And, unless the correct language arises from it, the situation goes unsolved. As a sample, a *net*, mathematically, has three or more meanings. Besides, none of these conforms to Samuel Johnson's, "Any thing reticulated or decussated at equal intervals, with interstices between the intersections." The student, we suggest, should not enmesh his thinking in the wrong net!

Referents

Awareness of context helps mightily in a learner's grasping what the symbols are used to represent. Related to this is the matter of referents.

In the first place, *Theophilus* is a name, not the boy himself. The word is not the thing it represents. But, very unnatural though it may seem, people sometimes do confuse symbols with 'referents.' They clutch at words, recite rules, and repeat formulas irrespective of what the symbols represent. "*Area* equals *length* times *width*, but this wall has only *length* and *height* so it can't have *area*." "If a room is 24 feet long, 12 feet wide, and 8 feet high, then its walls contain 24 times 12 times 8, or 2304 square feet."

Further examples abound. "A graph is a representation of facts and figures," but provide the pupil some facts and figures and you may not obtain even the start of a simple graph. The pupil who reacts to *1/3 + 1/4* as *2/7* operates with little respect for fractions as referents for these symbols. Similarly, the pupil who would drive an automobile 90 mph over the second mile in order to average 60 mph for two miles after driving the first mile at the rate of 30 mph also manipulates symbols *sans* significancy.

Indeed, whereas the sum of the *fractions* in "1/3 + 1/4" certainly does not equal "2/7," yet the baseball player who hit safely once in 3 times at bat during one game and then got 1 hit in 4 times at bat during another game of course got 2 hits in 7 times at bat. Then, accordingly, with these referents intended, "1/3 + 1/4" would, as ratios, equal the ratio "2/7."

We turn now to one way to induce awareness of referents. Which is the bigger number, **3** or 5? Here the confusion disappears. Evidently the **3** and the 5 are not themselves numbers. They are numerals, symbols representing numbers. Similarly, *three* and *five* belong to the set of names for numbers.

What, then, 'are' numbers? Here we encounter a key concept in mathematics. Numbers are *ideas* that number words and numerals *represent*. As such they defy extensional, or pointing-with-the-finger, definition. For *thirteen* or

13, for example, the referent is: the class of all classes that can be put into one-to-one correspondence with the class illustrated by $\begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{smallmatrix}$.

With the foregoing as a sample, it appears that verbal definitions likewise tend to stymie us. Neither pointing nor verbalizing satisfies completely; neither the spots nor the words *define* "13." For not the spots, but the *numerosity* of the spots, matters. And to employ "numerosity" to define *number* smacks of circularity.

In a word, one can multiply words without multiplying knowledge.

Operationalism

Admittedly, when 'ideas,' not objects, serve as referents, definitions present difficulties. And, like the referents for numbers, the referents for *all* mathematical symbols come from the realm of 'concepts' (higher-order abstractions). Hence the luxury of merely putting a finger on the object designated has to be foregone.

Descriptions and definitions, moreover, cannot specify everything. Eventually the appeal to words bogs down; if a *number* is a *class*, what is a *class*? If a *class* is a *set*, what is a *set*? And so on.

Fortunately, another avenue remains open. Although few can define 'number,' nearly all civilized people can, to some extent, think with numbers. And what people do with numbers reveals, at least to a degree, the meanings numbers have for them. This may vary from the imperfect grasp of the pupil who writes *10201 ÷ 101 = 11* to the insight of the mathematician who builds involved mathematical superstructures from the undefined natural numbers. So, man's operations with 'ideas' indicate their meanings to him.

Briefly, symbols in mathematics refer to concepts, which are meaningful in accordance with what people can do with them.

Signal or Symbol Reactions

Indeed, how people resolve their problems and enhance their satisfactions depends, in no small measure, on how they deal with symbols.

This gets at the crux of mathematics teaching. Shall *skills* (signal reactions) or *understandings* (symbol reactions) predominate?

By their behavior with respect to this issue teachers reflect their attitudes, their philosophies, their goals. If they mostly tell, show, drill, test, and repeat said steps with mathematical facts, principles, rules, and operations, they probably set a high premium on signal reactions. If they usually contrive situations, propose problems, and ask questions that encourage pupils to discover math-

ematical facts, principles, rules, and operations for themselves, they probably place a premium on symbol reactions.

Other contrasts appear between these two types of teaching. An emphasis on telling and showing implies that the teacher stands before the pupils, explaining, directing, checking. An emphasis on investigating and experimenting, on the other hand, suggests that the teacher stands aside, observing, encouraging, questioning. In the latter kind of teaching the teacher sponsors pupil estimating, discovering, proving, and generalizing. In the former pattern the teacher stimulates pupil listening, observing, imitating, and remembering. In the tell-and-show procedure *repetition* reinforces the desired responses. In the try-and-see method *evaluation* determines preferred solutions.

As an example, the symbols $(t + u)^2$ by the legalistic approach constitute a signal that the pupil shall "square the first term, add twice the product of the two terms, and add the square of the second term."

By contrast, the same symbols $(t + u)^2$ by the heuristic approach require a consideration of referents. What do the symbols mean? If t and u represent rational numbers and if $(t + u)^2$ means $(t + u)(t + u)$ what happens if we multiply t over $t + u$ and then multiply u over $t + u$? Can the resulting phrase take a briefer form? Is the result reasonable? Does it hold for $t = 10$ and $u = 5$? Can we undo, or reverse, the steps? Does the distributive law of multiplication over addition justify the factoring involved?

Leading questions admittedly facilitate learning by either method. A teacher's main job is to ask questions. Especially when the questioning induces pupils likewise to ask searching questions, educational growth ensues. Usually, as in the foregoing example of $(t + u)^2$, the discovery method outruns the telling method, in so far as evoking questions is concerned. It also apparently requires more time.

Generally, in fact, reacting to symbols implies time to identify referents, time to clarify relations, and, in short, time to think. Reacting to signals, on the other hand, means automatic, or nearly automatic, response.

What teachers rightfully ascribe to *skills* is a ready facility with symbols, a security amidst signs, a *savoir faire* in the realm of mathematical shorthand. One gainsays the value of this with difficulty, if at all. Skill with manipulations frees the learner for the important task ever at hand — analyzing and solving a problem.

What teachers with equally good cause attribute to *understanding* is an appreciation of symbols, a confidence in logico-quantitative reasoning, a spirit of try-and-see in mathematical situations. The value of this goes almost without saying. A pupil who knows how to operate without knowing *which* operation to apply fares even worse than the thinker who falters because of crude mechan-

ics. A correct conclusion matters more than elegance, even though no one decries the latter.

The issue, skills versus understanding, amounts, then, to this: pupils need to acquire both. Signal reactions permit the ready flow of thinking; symbol reactions constitute thinking itself.

As mathematics and psychology both continue to grow apace, teachers have come to a significant shift of emphasis. No longer do they put skills ahead of understanding, either temporally or rankwise. They seek both, simultaneously. No longer do pupils learn skills, and *then* gain understanding. Rather their teachers set appropriate problems for them, and the pupils learn the values of facts, principles, rules, and operations as they solve the problems.

A set of skills, in other words, does not grow in a vacuum. Even if it did, its possessor would still exhibit woeful deficiencies. "Which operation," he would likely and, insecurely ask, "do I use?"

Understanding, in fact, has outscaled skill in the hierarchy of values in mathematics education. If Jack, the learner, through the tutelage of a wise teacher comes to seek understanding first, then all these other things, including skills, will be added unto him. This comes, of course, from drill, or if you wish, from meaningful repetition. But the lion's share of Jack's time it does not allot to drill.

Signal reactions, then, and symbol reactions both have a place. Both need attention. Both need time. But the greater is the thinking, the reactions to symbols. Better a discerning analysis, a correct answer, and a cogent proof, even though finesse with manipulations — signal reactions — lags somewhat.

Affectives

Teachers rightfully rejoice that mathematical words refer to emotionally sterile 'concepts.' "The set of points," for example, "having coordinates that satisfy the condition $x + y \geq 13$" would hardly provoke Owen Wister's Virginian to remark "When you say that, *smile*!"

Similarly, mathematics requires no terms, such as *subversive*, which convey emotional overtones. Granted that being called a subversive is not 'to be' a subversive, yet such name-calling tends to excite people much as a spotlight disturbs a burglar at work.

But mathematical terms designate "abstractions" such as *point, line, number,* and "actions" such as *matching, counting, measuring,* and so on. Vague, vocative, value terms simply do not belong.

Yet teachers know, too, that non-emotive terms often acquire emotional overtones. Such terms may *denote* pure reason thrice distilled, but they can

come to *connote* pure fear thrice compounded. For some people *fraction* frightens. For others *division* distresses. For many *variation* vexes.

We need not multiply illustrations; some words wreak wonderment and worry. Teachers observe that such words block learning. Korzybski noted some 'inferiority complexes' that even intelligent people may display when they meet mathematical matters. And he attributed such abhorrence to faulty teaching.

Let us work from here. At any rate, students who admit such fears about mathematics tend almost universally to agree — they usually blame some faulty teaching they have had.

Doubtless they oversimplify, overgeneralize, overstate. To err is human, and to condemn one's teacher is convenient. And, for the pupil frankly to face the vexsome question, "Did I do my part?" complicates things.

Besides, even highly competent teachers disclaim perfection, and they welcome constructive comments. This reflects their desire to continue to grow professionally. Teachers recognize that, whereas subjects represent specialized segments of knowledge, the people they teach are wholes. They appreciate that, whereas mathematics involves facts and skills, it emphasizes 'ideas' and language. They realize that, whereas mathematics packs no emotives, their pupils nevertheless react emotionally.

For the most part, such teachers stress structures. Mathematics is a way of thinking. Its facts and procedures fit in with other subjects that pupils study.

In particular, these teachers part company with a psychology that reduces learning to the memorizing of facts, principles, and rules *before* the pupils understand those items. Instead they set up situations wherein the pupils use concrete materials to find relations, answer questions, and solve problems.

Pupils, for example, have learned about squares and cubes by handling square cards and cubical blocks in the kindergarten. Later, under their teacher's guidance, they investigate surfaces and hollow solids. If square inches and inch cubes are used as measuring sticks, how can we find measures of surfaces and solids?

The resulting activities, of course, help pupils to abstract for themselves several basic ideas. And the need for technical terms, definitions, and formulas grows out of the situation. Besides, having the ideas *before* they confront the language, pupils realize that nothing mysterious inheres in the latter. Being the products of the pupils' own investigations, the referents, what the symbols stand for, daunt nobody,

That nothing succeeds like success few will deny. Even slow learners like mathematics when they understand it. That insight into mathematics ranks first among one's qualification for teaching it still fewer will deny. Even master teachers study mathematics the better to comprehend it.

In two ways, then, teachers steadfastly direct their efforts toward understanding. They seek first to enlarge their own understanding. Their subject, though venerable, grows rapidly. They seek next to promote their pupils' understanding. They supplement standard courses with modern materials and applications. Their subject becomes more important in general, as well as technical, education.

No preventive for pupils' emotional blocks in mathematics shows greater promise than the effective, howbeit time-consuming, method of letting pupils explore, discover relations, find answers, derive formulas, and make generalizations themselves. Thus being acquainted with 'the referents' *before* they encounter the symbols, how can pupils fear those symbols?

Summary

Students of general semantics investigate how symbols affect people's behavior. In the foregoing sections a few principles of general semantics and a few illustrations of those principles got attention.

We made no attempt formally to define the principles. Korzybski's works and the works of those whom he set to thinking constitute a substantial literature. To evaluate this really monumental learning lay outside our present purpose.

We sought rather to sharpen some considerations that discerning teachers have long since mulled. Thinking and symbols are inseparable. Words provoke acts. Language affects learning. When pupils do not understand the mathematics they are studying, their teacher may well look to words as the source of difficulty.

Basic and salient is this: *People should be conscious of abstracting*. And, all sardonicism aside, teachers of mathematics are people.

From *General Semantics Bulletin Nos. 24-25*, 1959. Irvin H. Brune taught at Iowa State Teachers College, Cedar Falls, Iowa.

SCIENCE, COMMON SENSE AND DECENCY

IRVING LANGMUIR

We must stress that the article of Dr. Langmuir deals with two entirely different worlds, the physico-mathematical world of exact sciences, where the aristotelian principles do not apply fundamentally; and the human world, still ruled by antiquated aristotelian methods, which are in the main responsible for the present-day tragedies and confusion. It is not enough to contemplate the limitations of the methods of exact sciences. Our work is introductory to that new world in which physico-mathematical methods can be generalized to human problems, where those limitations will be non-existent.

— Excerpted from the *Foreword* by Alfred Korzybski

UP TO THE beginning of the present century one of the main goals of science was to discover natural laws. This was usually accomplished by making experiments under carefully controlled conditions and observing the results. Most experiments when repeated under identical conditions gave the same results.

The scientist, through his own experiments, or from previous knowledge based on the work of others, usually developed some theory or explanation of the results of his experiments. In the beginning this might be a mere guess or hypothesis which he would proceed to test by new types of experiments. If a satisfactory theory is obtained which seems in accord with all the data and with

other known facts, the solution or goal of the investigation was considered to have been reached.

A satisfactory theory should make possible the prediction of new relationships or the forecasting of the results of new experiments under different conditions. The usefulness of the theory lies just in its ability to predict the results of future experiments. The extraordinary accomplishments of the great mathematical physicists in applying Newton's laws to the motions of the heavenly bodies gave scientists of more than a century ago the conviction that all natural phenomena were determined by accurate relations between cause and effect. If the positions, the velocities and the masses of the heavenly bodies were given it was possible to predict with nearly unlimited accuracy the position of the bodies at any future time. The idea of causation, or a necessary relation of cause and effect, has long been embedded in the minds of men. The recognized responsibility of the criminal for his acts, the belief of the value of education, and thousands of words in our language all show how implicitly we believe in cause and effect. The teachings of classical science, that is, the science up to 1900, all seem to reinforce this idea of causation for all phenomena.

Philosophers, considering many fields other than science, were divided in their opinions. Many went so far as to believe that everything was absolutely fixed by the initial conditions of the universe and that free will or choice was impossible. Others thought that cause and effect relations were mere illusions.

From the viewpoint of the early classical scientist, the proper field for science was unlimited. Given sufficient knowledge, all natural phenomena, even human affairs, could be predicted with certainty. Ampere, for example, stated that if he were given the positions and velocities of all the atoms in the universe it should be possible theoretically to determine the whole future history of the universe. Practically, of course, such predictions would be impossible because we could never hope to get the necessary knowledge nor the time to carry out such elaborate calculations.

A little later, scientists developed the kinetic theory of gases according to which the molecules of a gas are moving with high velocity and are continually colliding with one another. They found that the behavior of gases could be understood only by considering the average motions of the individual molecules. The particular motion of a single molecule was of practically no importance. They were thus taught the value of statistical methods, like those which insurance companies now use to calculate the probable number of its policy holders that will die within a year.

The theories of explanations which were developed in connection with the natural laws usually involved a description in terms of some kind of a model. In general, instead of thinking of the whole complex world we select only a few

elements which we think to be important and concentrate our minds on these. Thus, the chemist developed the atomic theory according to which matter was made up of atoms of as many different kinds as there are chemical elements. These were thought of as small spheres, but no thought was given as to the material of which they were made. When later theories indicated that these atoms were built up of electrons and positive nuclei this made very little difference to the chemist, for he had not needed previously to consider that aspect of the model.

Material Unimportant

High school boys today are asked to build model airplanes. These must be of such shape that the different types of airplanes can be recognized when the profiles of the models are seen against a white background. It naturally is not particularly important just what kind of material is used in constructing them. Airplane designers build model airplanes to be studied in wind tunnels but these do not need to be provided with motors.

Most of the models which the scientist uses are purely mental models. Thus, when Maxwell developed the electromagnetic theory by which he explained the properties of light he thought of a medium through which these waves traveled. This was called the ether. It was supposed to have properties like those of elastic solid bodies. The reason for this choice of a model was that at that time the average scientist had been taught in great detail the theory of elasticity of solid bodies. Thus the magnetic and electric fields could be understood in terms of the familiar elastic properties. At the present time relatively few students are well trained in the theories of elasticity. The situation is thus reversed and today we explain the properties of elastic solids in terms of the electrical forces acting between their atoms.

Every student of geometry constructs a mental model when he thinks of a triangle. The mathematical lines that bound the triangle are supposed to have no thickness. In other words, they are stripped of any properties except those that we wish particularly to consider.

Equation is a Model

Most of the laws of physics are stated in mathematical terms, but a mathematical equation itself is a kind of model. We establish or assume some correspondence between things that we measure and the symbols that are used in an equation, and then, after solving the equation so as to obtain a new relation, we see if we can establish a similar correspondence between the new rela-

tion and the data obtained from an experiment. If we succeed in this we have demonstrated the power of the mathematical equation to predict events.

The essential characteristic of a model is that it shall resemble in certain desired features the situation that we are considering. On this basis we should recognize that practically any theory has many arbitrary features and has limitations and restrictions imposed by the simplifications that we have made in the development of the theory, or the construction of our model.

Beginning with Einstein's relativity theory and Planck's quantum theory, a revolution in physical thought has swept through science. Perhaps the most important aspect of this is that the scientist has ceased to believe that words or concepts can have any absolute meaning. He is not often concerned with questions of existence; he does not know what is the meaning of the question, 'does an atom really exist?' The definition of atom is only partly given in the dictionary. Its real meaning lies in the sum total of knowledge on this subject among scientists who have specialized in this field. No one has been authorized to make an exact definition. Furthermore, we cannot be sure just what we mean even by the word *exist*. Such questions are largely metaphysical and in general do not interest the modern scientist. Bridgman has pointed out that all concepts in science have value only insofar as they can be described in terms of operations or specifications. Thus, it doesn't mean much to talk about length or time unless we agree upon the methods by which we are to measure length and time.

For many years, up to about 1930, the new physics based on the quantum theory seemed to be fundamentally irreconcilable with the classical physics of the previous century. Through the more recent development of the uncertainty principle, developed by Bohr and Heisenberg, this conflict has now disappeared. According to this principle it is fundamentally impossible to measure accurately both the velocity and the position of any single elementary particle. It would be possible to measure one or the other accurately but not both simultaneously. Thus it becomes impossible to predict with certainty the movement of a single particle. Therefore, Ampere's estimate of the scope of science has lost its basis.

Probability Fundamental Factor

According to the uncertainty principle which is now thoroughly well established, the most that can be said about the future notion of any single atom or electron is that it has a definite probability of acting in any given way. Probability thus becomes a fundamental factor in every elementary process. By changing the conditions of the environment of a given atom, as for example, by chang-

ing the force acting on it, we can change these probabilities. In many cases the probability can be made so great that a given result will be almost certain. But in many important cases the uncertainty becomes the dominating feature just as it is in the tossing of a coin.

The net result of the modern principles of physics has been to wipe out almost completely the dogma of causation.

How is it then that classical physics has led to such definite, clean-cut laws? The simplest answer is that the classical physicist naturally chose as the subjects for his studies those fields which promised greatest success. The aim of the scientist in general was to discover natural laws. He therefore carried on his experiments in such a way as to find the natural laws, for that is what he was looking for. He was best able to accomplish this by working with phenomena which depended upon the behavior of enormous numbers of atoms rather than upon individual atoms. In this way the effects produced by individual atoms averaged out and became imperceptible. We have many familiar examples of this effect of averaging: the deaths of individual human beings cannot usually be predicted, but the average death rate in any age group is found to come close to expectation.

Atom Is Unpredictable

Since the discovery of the electron and the quantum and methods of detecting or even counting individual atoms, it has been possible for scientists to undertake investigations of the behavior of single atoms. Here they have found unmistakable experimental evidence that these phenomena depend upon the laws of probability and that they are just as unpredictable in detail as the next throw of a coin. If, however, we were dealing with large numbers of such atoms the behavior of the whole group would be definitely determined by the probability of the individual occurrence and therefore would appear to be governed by laws of cause and effect.

Just as there are two types of physics, classical physics and quantum physics which have for nearly 25 years seemed irreconcilable, just so must we recognize two types of natural phenomena. First, those in which the behavior of the system can be determined from the average behavior of its component parts and second, those in which a single discontinuous event (which may depend upon a single quantum charge) becomes magnified in its effects so that the behavior of the whole aggregate does depend upon something that started from a small beginning. The first class of phenomena I want to call convergent phenomena, because all the fluctuating details of the individual atoms average out giving a result that converges to a definite state. The second class we may call

divergent phenomena, where from a small beginning increasingly large effects are produced. In general then we may say that classical physics applies satisfactorily to convergent phenomena and that they conform well to the older ideas of cause and effect. The divergent phenomena, on the other hand, can best be understood on the basis of quantum theory of modern physics.

Let me give some illustrations of divergent phenomena. The wonderful cloud chamber experiments of C.T.R. Wilson show that a single high speed electron, or an alpha particle from an atom of radium, in passing through a gas leaves a trail of ions. By having moisture in the gas and by causing the gas to expand just after these ions are produced, drops of water are made to condense on the ions. By a strong illumination it thus becomes possible to see or photograph this track of ions as a white line on a dark background. The time at which an alpha particle will be emitted from a radium atom is inherently unpredictable. It would be totally contrary to the teachings of modern physics to suppose that our inability to predict such an event is merely due to our ignorance of the conditions surrounding the particular atom. The uncertainty principle requires that even if these conditions were absolutely fixed the time of emission and the direction of emission of the alpha particle are subject to the laws of chance and thus for a single particle are unpredictable.

May Alter History

The occurrences in the Wilson cloud chamber following the disintegration of a single radium atom are typical divergent phenomena. The single quantum event led to the production of countless thousands of water droplets and these made the track of the alpha particle visible and led to its reproduction in a photograph. This track may show some unusual feature of particular interest to the scientist. For example, it may have a kink which indicates that the alpha particle collided with the nucleus in one of the molecules of gas. The photograph may therefore be published — may start discussions among scientists that involve thousands of man hours — may delay one of them so that he misses a train on which he might otherwise have suffered a fatal accident. Examples of this kind, any number of which could be given, show that it is possible for single unpredictable quantum events to alter the course of human history.

The formation of crystals on cooling a liquid involves the formation of nuclei or crystallization centers that must originate from discrete, atomic phenomena. The spontaneous formation of these nuclei often depend upon chance.

At a camp at Lake George, in winter, I have often found that a pail of water is unfrozen in the morning after being in a room far below freezing but it suddenly turns to slush upon being lifted from the floor.

Glycerine is commonly known as a viscous liquid, even at low temperatures. Yet if crystals are once formed they melt only at 64 degrees F. If a minute crystal of this kind is introduced into pure glycerine at temperatures below 64 degrees the entire liquid gradually solidifies.

During a whole winter in Schenectady I left several small bottles of glycerine outdoors and I kept the lower ends of test tubes containing glycerine in liquid air for days but in no case did crystals form.

My brother, A.C. Langmuir, visited a glycerine refinery in Canada which had operated for many years without ever having any experience with crystalline glycerine. But suddenly one winter, without exceptionally low temperatures, the pipes carrying the glycerine from one piece of apparatus to another froze up. The whole plant and even the dust on the ground became contaminated with nuclei and although any part of the plant could be temporarily freed from crystals by heating above 64 degrees it was found that whenever the temperature anywhere fell below 64 degrees crystals would begin forming. The whole plant had to be shut down for months until outdoor temperatures rose above 64 degrees.

Here we have an example of an inherently unpredictable divergent phenomenon that profoundly affected human lives.

Every thunderstorm or tornado must start from a small beginning and at least the details of the irregular courses of such storms across the country would be modified by a single quantum phenomenon that acted during the initial stages. Yet small details such as the place where lightning strikes or damage occurs from a tornado may be important to a human being.

Heredity and Evolution

Still more obvious examples of divergent phenomena which affect human life are those involved in the mechanism of heredity and the origin of species. Whether the genes are inherited from the mother or from the father seems to be fundamentally a matter of chance, undoubtedly involving changes in single atoms. It is known definitely that changes in genes or mutations can be produced by X-rays and it has even been proved that a single quantum is sufficient to bring about such an alteration. The growth of any animal from a single cell is a typical illustration of a divergent phenomenon. The origins of species and all evolutionary processes involving as they do natural selection acting upon mutations, must depend at almost every stage upon phenomena which originate in single atoms.

An idea that develops in a human brain seems to have all the characteristics of divergent phenomena. All through our lives we are confronted with situa-

tions where we must make a choice and this choice may sometimes alter the whole future course of our lives.

Will Affect Thought

As the implications of the uncertainty principle, especially as applied to divergent phenomena, are more generally recognized, the limitation of the idea of causality should have profound effects on our habits of thought. The science of logic itself is involved in these changes. Two of the fundamental postulates of logic are known as the law of uniformity of nature, and the law of the excluded middle. The first of these laws is equivalent to the postulate of causality in nature. The second law is simply the familiar postulate that a given proposition must be either true or false. In the past these so-called laws have formed the basis of much of our reasoning. It seems to me, however, that they play no important part in the progress of modern science. The cause and effect postulate is only applicable to convergent phenomena. The second postulate in assuming that any proposition must be true or false implies that we attach absolute meanings to words or concepts. If concepts have meanings only in terms of the operations used to define them we can see that they are necessarily fuzzy. Take for example this statement, 'atoms are indestructible.' Is this true or false? The answer depends upon what aspect of atoms is considered. To the chemist the statement is as true as it ever was. But a physicist, studying radioactive changes, recognizes that some atoms undergo spontaneous disintegration or destruction. The fact is that the chemist and the physicist have no exact definitions of the word atom and they also do not know in any absolute sense what they mean by indestructible.

Fortunately such questions no longer occupy much of the time of scientists, who are usually concerned with more concrete problems which they are endeavoring to treat in common sense ways.

It is often thought by the layman, and many of those who are working in so-called social sciences, that the field of science should be unlimited. That reason should take the place of intuition, that realism should replace emotions and that morality is of value only so far as it can be justified by analytical reasoning.

Human affairs are characterized by a complexity of a far higher order than that encountered ordinarily in the field of science.

To avoid alternating periods of depression and prosperity economists propose to change our laws. They reason that such a change would eliminate the cause of the depressions. They endeavor to develop a science of economics by which sound solutions to such problems can be reached.

I believe the field of application of science in such problems is extremely limited. A scientist has to define his problem and usually has to bring about simplified conditions for his experiments which exclude undesired factors. So the economist has to invent an 'economic man' who always does the thing expected of him. No two economists would agree exactly upon the characteristics of this hypothetical man and any conclusions drawn as to his behavior are of doubtful application to actual cases involving human beings. There is no logical scientific method for determining just how one can formulate such a problem or what factors one must exclude. It really comes down to a matter of common sense or good judgment. All too often wishful thinking determines the formulation of the problem. Thus, even if scientifically logical processes are applied to the problem the results may have no greater validity than that of the good or bad judgment involved in the original assumptions.

May Have Vital Importance

When we consider the nature of human affairs it is to me obvious that divergent phenomena frequently play a role of vital importance. It is true that some of our historians cynically taught most of our college students from 1925 to 1938 that wars, the rise and fall of nations, etc., were determined by nearly cosmic causes. They tried to show that economic pressure, and power politics on the part of England or France, etc., would have brought the same result whether or not Kaiser Wilhelm or Hitler or any other individual or group of individuals had or had not acted the way they did. Germany, facing the world in a realistic way, was proved, almost scientifically to be justified in using ruthless methods because of the energy and other characteristics of the German people they would necessarily acquire and should acquire a place in the sun greater than that of England, which was already inevitably on the downward path.

I can see no justification whatever for such teaching that science proves that general causes (convergent phenomena) dominate in human affairs over the results of individual action (divergent phenomena). It is true that it is not possible to prove one way or the other that human affairs are determined primarily by convergent phenomena. The very existence of divergent phenomena almost precludes the possibility of such proof.

The mistaken overemphasis on convergent phenomena in human affairs, and the reliance on so-called scientific methods, has been responsible in large degree for much of the cynicism of the last few decades.

The philosophy which seems to have made the German people such willing aggressors is allegedly based upon scientific realism. Almost any system of

morality or immorality could receive support from the writings of Nietzsche, so inconsistent are they with one another. But his teachings, which purport to be based on the laws of natural selection, have led in Germany to a glorification of brute strength, with elimination of sympathy, love, toleration and all existing altruistic emotions.

Darwin, himself, however, recognized that the higher social, moral and spiritual developments of mankind were factors which aided in survival. Natural selection is often referred to loosely as the law of the survival of the fittest. The concept of fitness, seems, however, inherently rather fuzzy. Apparently these individuals are fittest which possess characteristics that increase the probability that they shall survive.

Realists' Arguments

We often hear realists deplore the effects of charity which tend to keep the unfit alive. We are even told that the whole course of evolution may be revised in this way. Similar arguments could be used against the surgeon who removes an appendix or a doctor who uses a sulfa drug to cure pneumonia.

But what is the need of developing a race immune to appendicitis or pneumonia if we possess means for preventing their ill effects? The characteristics that determine fitness merely change from those of immunity to those which determine whether a race is able to provide good medical treatment.

The coming victory of the United Nations will prove that survival of the nation may be prevented by an aggressive spirit, by a desire to conquer or enslave the world, or by intolerance, ruthlessness and cruelty. In fact there is no scientific reason why decency and morality may not prove to be vastly more important factors in survival than brutal strength.

Must Plan for Future

In spite of the fact that we can no longer justify a belief in absolute causation and must recognize the great importance of divergent phenomena in human life we still have to deal with causes and effects. After all we must plan for the future. We can do this, however, by estimating probabilities even where we do not believe that definite results will inevitably follow. When our Army lands in North Africa its probable success depends on the carefulness of the preparations and the quality of the strategy. But no amount of foresight can render success absolutely certain.

It does not seem to me that we need be discouraged if science is not capable of solving all problems even in the distant future. I see no objection to recognizing that the field of science is limited.

In the complicated situations of life we have to solve numerous problems and make many decisions. It is absurd to think that reason should be our guide in all cases. Reason is too slow and too difficult. We often do not have the necessary data. Or we cannot simplify our problem sufficiently to apply the methods of reasoning. What then must we do? Why not do what the human race always has done — use the abilities we have — use common sense, judgment and experience. We often underrate the importance of intuition.

In almost every scientific problem which I have succeeded in solving, even those that have involved days or months of work, the final solution has come to my mind in a fraction of a second by a process which is not consciously one of reasoning. Such intuitive ideas are often wrong. The good must be weeded out from the bad — sometimes by reasoning. The power of the human mind is far more remarkable than one ordinarily thinks. We can often size up a situation, or judge the character of a man by the expression of his face or by his acts in a way that would be quite impossible to describe in words.

People differ greatly in their ability to reach correct conclusions by such methods. Our superstitions and the present popularity of astrology prove how often our minds make blunders. Since we have to live with our minds, however, we should train them, develop them, censor them — but let us not restrict them by trying to regulate our lives solely by science or by reason.

Our morality is a kind of summation of the wisdom and experience of our race. It comes to us largely through tradition or religion. Some people justify evil things on the basis of morality — but by and large a recognition of right and wrong, even if these concepts are sometimes fuzzy, has proved to be of incalculable value to mankind. The philosophical, metaphysical or even scientific analysis of the principles of ethics has not proved particularly fruitful. A sense of morality and decency, although not scientific, may be a major factor in winning the war.

From *ETC* 1-2, Winter 1944, from a radio address December 26, 1942. Dr. Langmuir was Associate Director of the General Electric Research Laboratory and received the Nobel Prize for Chemistry in 1932.

ON STRUCTURE AND SURVIVAL

WILLIAM VOGT

KORZYBSKI WAS principally concerned with man as an organism-as-a-whole and the relationship of the structure of his psycho-logical, time-binding processes to the world in which man lives. In his profound discussion of the structure of these relationships, Korzybski tended to under-emphasize the *environment-as-a-whole* in which the organism exists, and perhaps never appreciated fully the contribution he had made to the understanding of this essentially ecological problem. It was because Korzybski's generalized formulation so adequately fitted the structure of *ecology* — a young science and one from which general principles are only beginning to emerge — that I felt little of the resistance to general semantics that is occasioned by the necessity of many of us to unlearn when we first encounter it.

Ecology, classically defined as the relationship of an organism to its environment, might be more adequately described as the four dimensional interrelationships of the environment-as-a-whole, including the organism-as-a-whole. This means that it is chiefly concerned with *variables*, that most of these are *dependent* variables, and that they must therefore be regarded as *functions*. Just as the organism-as-a-whole is different from the sum of its parts, so is the envi-

ronment-as-a-whole. This fact has, to an amazing degree, escaped economists, conservation authorities, agronomists, foresters and especially statesmen and administrators, whether they be at the government, international or philanthropic foundation level. The very wide failure to fit psycho-logical processes to the four dimensional, functional world of dependent physical variables has resulted in costly, wasteful, and even destructive and dangerous errors.

We live in, and are dependent on, a *physical* world that supplies not only the basic means of our survival but the surplus wealth that, operated on by human thinking and skills, makes possible what we consider a high standard of living. Basic to our physical survival are adequate supplies of carbohydrates, fats, proteins, vitamins, etc. These are often extremely complex substances, and primarily drawn from the soil.

Besides our food we must have, in virtually every part of the globe, adequate housing and this again has frequently been drawn from the soil in the form of lumber if only as the wattles supporting adobe walls.

In all except the most primitive societies, usually but not always restricted to the tropics, we must be adequately clothed and for the vast majority of the people on the face of this globe clothing comes either in the form of plant fibres from cotton, or animal fibres from sheep. The cotton is derived directly from the soil and the wool indirectly through pastures and ranges.

Water is an equal necessity with food, since, deprived of water, a human organism dies much more rapidly than when it is deprived of food. Perhaps water should be considered more important than food. Water is required not only for drinking but for agriculture, manufacturing, sanitation, power, etc., and as the standard of living increases the per capita use of water necessarily goes up at a, geometric rate — in the U.S. to more than 1,000 gallons a day per capita! Great shifts of human populations have been set in motion by climatic changes resulting in reduced availability of water. In many parts of the world today lack of water or the extreme costliness of securing it, not only in terms of money but in terms of energy and materials, is one of the most powerful factors limiting the potentialities of human 'progress.'

The various elements making up our productive world — soil, water, forests, and grasslands — seem relatively simple and are thus considered by many people. In fact, however, each, one of them is a *dependent variable* and is frequently part of a structure that could be described only by an extremely complex equation, were it possible to describe it mathematically.

Soils, for example, are *functions* — that is to say the resultant of interactions — of the parent material or rock from which they are derived: of insolation (a particularly powerful influence in the tropics, the chemical action of air and rain), of slope (some soils have a higher angle of repose than others), tem-

perature (in reference to absolute amounts, range, and distribution throughout the year), of water (in relation to total precipitation, its distribution throughout the year, and the amount deposited in brief periods of time), of wind, (as an evaporative and erosive force), fire (caused by friction, lightning or man), of plants (as they condition the soil through their successions and as they protect it against erosion), of the animals that live in and condition the soil — protozoans, isopods, insects, earthworms, and larger burrowing forms, plus grazing animals that may destroy plant cover and initiate erosion with their cutting, hooves, of time, etc.

Even the parent material is a function of tectonic movements, volcanic eruptions, climate, glaciation, time, etc.

Slope is a function of parent material, winds, precipitation, temperature (which by freezing tends to loosen the surface of sloping rocks and soil and thus to advance levelling), plants (which by root action may break down slopes or by protective action may hold sloping soils in place), and animals (which may act as either stabilizing or erosive forces), time, etc.

Temperature is a function of slope, evaporation, wind, plant cover, proximity to large bodies of water, the parent material (as, for example, on the guano Islands of Peru where contrasts in color of the sub-stratum will frequently result in temperature differences within a few meters of 15 degrees centigrade or more), time, etc.

Winds are a function of slope, temperature, proximity to deserts or large bodies of water, vegetation (which may act as a significant wind control in the microclimate and as a means of reducing the violence of convection currents), time, etc.

Fire may be a function of vegetation, precipitation, wind, slope, time, etc.

Plants will be a function of soil, slope, temperature, precipitation, evaporation, wind, fire (as an example might be mentioned the jack pines of Michigan which occur as a part of the plant succession following forest fires, of other plants, which act through soil conditioning, competition, etc.), of animals (which affect plants through destruction as in the case of insects, through seed dispersal, through actual planting and grazing), of time, etc.

The animals in a given biota will be functions of soil, temperature, precipitation, wind, fire, plants providing food and cover, other animals that act through competition, predation, parasitism, etc., time, etc.

This perhaps tiresome catalogue of inter-relationships is far from exhaustive. I have merely abstracted some of the salient facts. It is not to be thought that all of them are present in every environment. Deserts and the Arctic are especially appealing to ecologists as research areas because the number of elements is reduced and the possibility of understanding inter-relationships is cor-

respondingly much greater. The most complex environments are probably found in the sea at the convergence of major current areas as, for example, where the Humboldt or Peru current meets the Equatorial Counter Current, or in tropical forests. It is largely because of the complexity of the dependent variables in this last region that civilized man has encountered such great difficulty in coming to terms with it.

When so many variables in these environments are dependent upon the status of other elements, each of which, as a *variable*, is also unstable, we should expect to find a natural environment in a state of flux. This is, as every field naturalist knows, the normal situation.

One need not have much technical training as zoologist or botanist to see the changes that are taking place around the edge of shallow lakes filling with decaying vegetation, or receiving a normal complement of silt, areas that have been swept by fire, bays where one or more variables have been altered by such a major force as the disease that some ten years ago swept through the eel grass (*Zostera marina*) of the Atlantic coast, or in the great swaths that have been ripped through eastern forests by recent wind storms, smashing down trees, opening the forest floor to the full impact of the sunlight, exposing the soil to the effect of rain and wind, etc. Here, what might be called *dominant variables* have been affected and the impact of this on the host of variables dependent upon them is dramatic.

Climax is the name given to an area in which the relationships of the dependent variables have, usually after a long period of time, finally balanced one another and achieved an equilibrium except in micro-areas. Examples of the climax are our own short grass prairies, the beech-maple forest of our southeast, and the Taiga, or vast belt of coniferous forest that sweeps across Canada, northern Europe and Siberia. Even in such landscapes as this, wherever lakes are being filled by silt or decaying vegetation, where there has been a fire, or trees have been felled by wind, one can see the reversal of the processes and the struggle to regain the equilibrium on a small area. Once a climax has been achieved it will maintain itself during centuries, unless disturbed by some such factor as a shift in climate. In this case, in effect, the change in temperature and/or distribution of precipitation acting upon the other dependent variables in the complex, reverses the trend toward equilibrium and places the erstwhile climax in the status of a sub-climax which must now adjust itself to the new conditions. A change in x brings about a corresponding change in y.

In the discussion so far there has been little mention of man. The reason for this is that until recently, in most of the world, he has been an insignificant factor in the physical complex. In 1650, only 300 years ago, his total population probably did not much exceed that of Pakistan and India today. His *time-bind-*

ing characteristic, to which so much weight is given by Korzybski, has acted as an effective force only during the last 10,000 years or so or probably less than one percent of the time since he emerged as a time-binding anthropoid.

For millenia, man, too, was a part of the natural climax, he had to be, or perish. Korzybski observed that "in the case of primitive tribes which apparently have not progressed at all for many thousands of years, we always find, among other reasons, some special doctrines or creeds, which proclaim very efficiently, often by killing off individuals (who always are responsible for progress in general), that any progress or departure from 'time-honored' habits or prejudices 'is a mortal sin' or what not." Here a significant phrase, apparently given little weight by Korzybski is "*which apparently have not progressed at all for many thousands of years*."

Many human aggregates in all parts of the world have evolved culture patterns — time-binding structural relationships — that so little disturbed the equilibrium developed among the dependent variables of the physical environment in which they live that, measured by the biological criterion of survival, they have been extremely successful. Notable examples are primitive tribes in Africa, South America and Australia, and peasant societies in south China and western Europe. Indeed, these last two evolved ways of life that so well fit into the structure of dependent variables of their respective geographies that it would seem they must be considered functions of the physical environment. It should be noted that these particular cultures, in primitive and peasant states, have lived close to the process level and have been relatively little influenced by such high order abstractions as money, legal codes, political doctrine, etc. Perhaps there is a moral here but this is not the occasion to attempt to state it.

These human societies that have maintained stability over long periods have developed what might be called a *cultural climax*. Their agriculture, industry if any, economic system, medicine, family structure, religion, value systems, ethical codes, justice, military capacity, many of which involve such lower order abstractions that they are virtually at the process level, and all involving dependent variables, have arrived at an equilibrium comparable to that found in the Taiga or short-grass prairie. That we may consider this climax inferior to our way of life is beside the point. It would scarcely seem our province — though this would be rank heresy to some of our active do-gooders — to say that these people are better or worse off than we. (A cynical friend of mine, attached to our diplomatic service in one of the so-called backward countries, remarked, "The first function of our Point IV program is to make people realize how unhappy they are.")

The one lesson we should learn from an understanding of structure — the organism-as-a-whole-in-the-environment-as-a-whole — is that it is indefensible

to consider any of these factors in isolation, but that they must be seen as part of the total situation. And, as we look at any set of dependent variables in the subclimax stage, we must be fully aware of the fourth dimension. The rapid increase of the population in Great Britain resulted in many accomplishments that would generally be conceded to be 'good,' but most of these have been variables dependent on forces that the British can no longer control, and it would be a rash individual indeed who, following the British trend through from the 19th Century, would today say that it is 'good.' Sweden, whose complex of dependent variables is widely admired, has developed most of her structure on two variables over which she exerts no control: importation of raw materials, including fuel, food and fertilizer, and sale of her manufactured products in foreign markets. Should either of these variables be significantly changed as by war or depression, the effect on the structure of the Swede-in-his-environment could be profound.

To a very considerable extent the increased integration results from dependence on such high order abstractions as money, newspapers, with their wire services such as the Associated Press and the United Press, and most recently the radio. Not many years ago a president could blunder and blush relatively unseen, today his blunder (if not his blush) is reported within a few hours upon the front pages of newspapers in every major city in the world. The Word, man's most useful time-binding device, has been given a currency that even fifty years ago would have been considered unbelievable. Unfortunately the increase in communication has not been accompanied by a comparable increase in our powers of evaluation and the "Big Lie" has become a most dangerous tool, not only in the hands of the advertising profession but in the service of such dictators as Mussolini, Hitler and Stalin. This, most of us in the West are agreed upon.

Not many of us, however, are aware of the fact that the "half-lie," a label we might in all fairness pin on the "half-truths" that have so much currency today, may in the end prove to be as dangerous as the Big Lie. That these half-lies are spread in good faith does not draw their fangs. They may have an equally potent influence on the dependent variables by which men live, and when the truth finally prevails, the reaction against the half-lie may be as violent as against the Big Lie.

Not all of the half-lies originate in official propaganda sources. One of their most fruitful spawning beds today is Hollywood, and the high-level abstractions we call "supercolossal features" have today convinced hundreds of millions of people that we must be a rather despicable nation. On a number of occasions I have had foreigners say to me, "Oh yes, I know all about the United States. I go to the movies." A friend in the Malayan Forest Service told me of an

argument he heard between two boatmen, with whom he was traveling, as to whether Tarzan or Tom Mix was the greatest man in America! The dress, ethics, and it is said, even the sex habits of peoples throughout the world have been influenced by what a small group of people in Hollywood thinks will have a box-office appeal.

As a matter of unhappy fact, the abstractions which are words, like the abstractions which are motion pictures, are constantly identified, as Korzybski points out repeatedly, with 'reality.' When this is done even by our own leaders, how can we expect the millions of India, Ceylon, Africa, etc., to be any wiser? It is extremely important to recognize that upon the structure of dependent variables that make up our physical world, we are attempting, Canute-wise, to impose a controlling structure of symbolic, semantic variables. And as we alter these, in a revolutionary manner, and as a consequence attempt to torture physical structure into a shape that will conform to our verbal structure, we are reversing the natural order and trying to make the territory fit the map. For example, when in the name of 'Democracy,' 'Christianity' and 'Capitalism' we deliberately superimpose a western demographic and economic structure upon peoples living in tropical rain forests, we are simply asking for trouble.

Notions such as are expressed by the words *democracy, justice*, and *human rights* — multiordinal terms — are dependent variables. Such a high-order abstraction as 'democracy' represents a structure of dependent variables that make up a culture pattern. One of the most important of these variables is education, which can be developed only through a system of schools, provided with books, based on scholarship and scientific research, and adequately staffed with teachers. The availability of these, and especially their quality, will depend upon sufficient surplus wealth to support activities, and provide physical materials, in ways that are only remotely productive. Each of these elements is itself a dependent variable that, if it were possible to evaluate it mathematically, would have to be given a different rating in Guatemala and New Zealand, Mississippi and California. In poverty-stricken, overcrowded, countries like India and China, where the vast majority of the people live on the bare edge of subsistence and where even the raw materials of buildings, laboratories, books, libraries, and a free press are available in only minute quantities per person, the abstraction 'education' has little reference to what it might be in the United States and Sweden and is far removed, indeed, from the process level at which *education* operates.

Because the actual scarcity of physical materials is an all too potent factor limiting the process 'education,' and the dependence of this variable on such a withered, anaemic base results in a process that is of little use in helping those who receive the 'education' to adjust themselves adequately to the complex

modern world, they are likely to continue to be deluded by high order abstractions, to identify these with 'reality,' and thus to fall victim to communist and fascist dictators. Just as an absence of 'education' may prove an effective limiting factor on democracy, so may a lack of understanding of and respect for lawful processes, and an unwillingness to abide by the decision of the majority, etc. In the parts of the world where the normal processes of democratic elections are replaced by assassination as the means of changing the government — and this would seem to include much of Latin America, Africa, and the Near, Middle and Far East — 'democracy' differs little from Korzybski's "*blah-blah-blah*."

Our system of political democracy, which has never functioned perfectly, has always consisted of a structure of variables that, since they were dependent upon many other variables, have constantly undergone changes that may or may not have been for the better. Nineteenth century thinkers increased their understanding of the structural relationship between political democracy and economic democracy and, for a time at least, changed both processes so that they became increasingly satisfactory to the majority of the peoples of many western countries. Economic democracy, however, involves a very complex structure in which the process world is inextricably mixed with very high-order abstractions such as *money*, in a rapidly changing system of dependent variables. While the structure was initially built on the process level, abstractions of higher orders, farther and farther removed from the process level of land and barter, have come to exert increasingly greater influence, and verbal, symbolic abstractions are actually affecting the process level. An instance of this is the policy of the United States Department of Agriculture which, through its system of parity payments, has induced the farmers of the United States to accept vast quantities of the symbol *money*, a dependent variable of an extremely high order of abstraction, in exchange for the fertility, structure and water retention capacity of their soil. As the *money* variable decreases in its power to accumulate objects that the farmers require, the government simply increases the number of symbols, or substitutes others marked with numbers of a higher order. Meanwhile the calcium, phosphorus, potassium, nitrogen, a host of micro-elements, colloids, and organic matter are removed from the farmer's land at an increasingly greater rate. This is done, in part, so that we can ship the products of the American farmers' land to foreign countries that, identifying the abstractions *human rights, justice, economics, democracy*, etc., with some sort of 'reality' at the process level, feel they are entitled to receive them — even though these crops have been produced through destructive processes.

The world island is dangerously close to being filled with human beings and (within the present structure of dependent variables, including education,

communication, scientific knowledge, technology and its application) can no longer safely permit the structure of dependent variables at submicroscopic, microscopic, and macroscopic process levels to be distorted to fit the structure of semantic, verbal maps — a reversal of the natural order and, therefore *unsane*.

We are, at the present time, in the midst of one of the most profound revolutions in the history of the world, if not the most profound. Not only is the physical structure of dependent variables being altered more thoroughly, through the application of physics, chemistry, genetics, engineering, etc., than at any period since the Renaissance, the 17th Century's agricultural revolution, the 18th Century's industrial revolution, and the 19th Century's sanitary — or vital — revolution. The 20th Century's physical revolution is indivisibly part of a semantic revolution that is more effective at the psychological level — and therefore at the physical level — than the Christian revolution, the Reformation, the Franco-American revolutions, or the Darwinian revolution that freed mankind from thralldom to priestcraft.

Though man is in more complete control of the structure of physical variables than at any time in his history, and today's commonplace would have been yesterday's miracle, in the most literal sense, he is at once master and captive of his semantic structure to an extent that would have been equally incredible a few decades ago.

He is captive in Moscow, Belgrade, Rome, Peiping, Washington, etc. — wherever he has identified the *word* with the *process*, the *propositional function* with the *proposition*. This, unhappily, means that he is captive nearly everywhere since the structure of our semantic reactions is such that we have elaborated a beautiful map on which our modern semantic fantasies are as carefully delineated as the Neptunes, sea serpents, Aeoluses, etc., of the 15th Century charts. Our symbols are Aristotelian but without a date to indicate that they were valid 2,000 or more years ago, or Marxian, without an indication that they were charted in the library of the British Museum in the middle of the last century. We still navigate by these maps and it is small wonder that at times we pile up on shoals, or even continental shelves, that were unknown when the Aristotelian, and/or Marxian maps were devised.

Those who have re-educated themselves in 1952, non-Aristotelian structure, through the formulations of Korzybski or some of his colleagues, will have learned to discriminate among orders of abstraction, to separate symbol and 'reality,' to date and extensionalize — i.e., to work by formulations that correspond to the world of process as it is now understood by science.

The percentage of those who have learned not to confuse orders of abstraction, not only in the total world population but among world leaders, is dis-

mayingly small. The vast bulk of mankind, acting upon what was taught to their parents before the latter were eight years of age (a reasonable enough procedure when societies, like the physical world, were characterized by the equilibrium of the *climax*) is acting upon assumptions that have little to do with the present 'reality' of rapidly changing systems of dependent variables.

When, in a four-dimensional process world one's behavior is adapted to a verbal, symbolic structure that approximates such a three-dimensional world as never was, chaos, catastrophe and destruction are not far ahead. Korzybski's formulations, difficult though they may seem, and imperfect as he admitted them to be, are one of the few charts that fit not only territory of 1952, but that of the world's immediate future. Is it vain to hope that those bearing the responsibility of charting our survival will at least give respectful consideration to his up-to-the-minute presentation of the structure in which we have our being?

Excerpted from *General Semantics Bulletin Nos. 10-11*, Autumn-Winter 1952-53. Dr. Vogt authored *Road to Survival* and served as National Director of Planned Parenthood Federation of America. The complete article is accessible online at:
www.time-binding.org/library/gsb.

———

"If the world has nearly destroyed itself, it is not from lack of knowledge in the sense that we lack the knowledge to cure cancer or release atomic energy, but is due to the fact that the mass of men have not applied to public policy knowledge which they already possess, which is indeed of almost universal possession, deducible from the facts of everyday life. If this is true — and it seems inescapable — then no education which consists mainly in the dissemination of 'knowledge' can save us. If men can disregard in their policies the facts they already know, they can just as easily disregard new facts which they do not at present know. What is needed is the development in men of that particular type of skill which will enable them to make social use of knowledge already in their possession; enable them to apply simple, sometimes self-evident, truths to the guidance of their common life." — Sir Norman Angell, 1941, as quoted in Lee's *Language Habits in Human Affairs*

LAW TALK AND WORDS CONSCIOUSNESS

WALTER PROBERT

ONE IS TEMPTED on an occasion like this to be profound. Certainly the previous speakers were, although not exclusively so. Let me right away say one thing that might at least sound profound. That is that law discourse — law talk as I prefer to call it — is normatively ambiguous and among the most manipulable of all forms of discourse. What I will have to say about law talk stems from that base, but I will put it in terms of *law talk* and *words consciousness*.

In this year of the drama of Watergate exposure, talk of law is timely indeed. We have been publicly much involved with law in these last several years, before that in that period some may have almost forgotten. Certainly this University is a fitting place to recall those times, the times of campus upheavals and the general social upheaval which were marked by a variety of more dramatic forms of protest than is currently apparent. Remember the cries of law and order during those days, under the cover, at least, of legalistic rhetoric — which ironically has been turned back against those who were manipulating it at that time.

Over the last decade we have seen an increasing national involvement with law. It is much in the news and worth talking about for that reason. I think there is need for wide public discussion of law and its processes, including if not

especially its linguistic dimensions. It is all rather complicated. There is need to promote understanding.

Law aside, *words consciousness*, generally speaking, is certainly appropriate to this particular occasion, to any occasion when one speaks of Korzybski. My own experience with Korzybski is in this area of concern with words consciousness or sensitivity to the communicative dynamics of words, if you will. That, to me, is the major impact of the Korzybskian approach. Not that he is alone in the field, not with the likes of Wittgenstein and J.L. Austin from philosophy, among a steadily increasing variety of approaches.

What am I talking about when I speak of words consciousness? I suppose anybody who is really a student of general semantics knows without further comment, but let me comment a bit more about it. And let me add that it is particularly appropriate to talk about words consciousness in these days because we have over these last few years seen an increasing experimentation in what has been called "states of consciousness," different mental states, some would say, involving changes in one's contacts with one's self and the world. Some of it comes through drugs, but not all of it. There were ways in which McLuhan explored in this area in his emphasis of other aspects of communication than words. As a teacher I am particularly conscious that the era has been increasingly anti-intellectual, perhaps anti-words. *Consciousness without words*. The thought is that somehow words impede consciousness or sensitivity to non-words, inhibit total involvements. That is often true, as indeed Korzybski, too, stressed. But it is not always or necessarily true.

Through word sensitizing one can reach higher levels of consciousness and awareness. I think this is where Korzybski headed us. As you know, many people are not aware of this dimension of Korzybski, not at all, maybe because of that label "general semantics." Few here would suffer from the semantic blockage of the expression, yet many people think that *general semantics* is only involved with language, only involved with words. Of course it isn't. For that matter, I am not sure how you would be involved only with words. But one has to understand language and words as fully as possible in order to understand one's self and one's involvements with what is going on around him and what is going on inside. That is a strange notion to the uninitiated.

When I talk about *words consciousness*, I am really not just talking about a hangup on words, if that is even possible. I mean, what are we talking about when we are talking about words? Part of being *words conscious* is to realize what sort of concept 'words' is. How do you identify a word? Now I realize the risks of word-magic here, of elementalism and such, but just as we say that meaning is not (just) in words, similarly you are never really just confronting words if you are communicating or thinking or reading because then you are

involved in some sort of interacting or relating. There is interaction even if one is only reading, with the stimulus on the page but also within one's self. This is part of the process that is often forgotten, say when we are doing what we call interpreting the Constitution.

There are levels of words consciousness. Even those who have not come into contact with general semantics or other sensitizing approaches to words have some words consciousness, and some persons are highly sensitized. Consider familiar examples. Words consciousness is involved in asking what a word 'means' in a conversation or in print, for instance, or looking it up in the dictionary. (Even those who practice GS look up words in dictionaries, not to find 'the meaning' or to be controlled by the findings, but to become familiarized to uses of the word.) Or when one recognizes an ambiguity, that is some kind of level of consciousness of words. There are some very subtle ambiguities that are involved in verbal communication, and few really plumb the depths.

In my book, *Law, Language and Communication*, I make quite a bit of puns and metaphors, as a way of sensitizing to words. Whether a pun pleases or annoys, recognizing it involves words consciousness, as does the *conscious* use of a metaphor. (Unconsciously used metaphors pervade our language.) So you see this notion of words consciousness is hardly esoteric. But there are stages of advancement which are not generally appreciated or easily reached. If one takes this far enough we are probably relating to Sam Bois' formulation of epistemological profile, for instance. As one goes further and further into words consciousness, he is getting to some different states of involvements.

Those who have read in popularized semantics, as distinguished from general semantics, are familiar with the idea of 'loaded' words. That distinction between descriptive words and feeling or judgmental words begins a path of exploration of the many ways more than two that words actually get used. It oversimplifies, but it is an important beginning for words consciousness.

When you come to the Korzybskian sort of explorations and restructuring you have a rather high-level attempt to bring words consciousness to students and others, with his various devices, for instance, the *indexing*, the *quotes*, and the *etc*., and all of that, all part of the business of promoting a consciousness of words. He went much further than inventing devices, and much further than most linguistic analysts would go, to say that the use of any expression, any word, or any reaction (semantic reaction, he said) involves some sort or order of evaluation. The oversimplified dichotomy of popularized semantics into description-feeling does not go that far. Further, Korzybskian structuring in terms of multiordinality, the general concern with language structure and events structure, and so on is way, way along in this business of *words consciousness* raising.

Structure — Chomsky and his heirs among linguists have shown considerable interest in the *structure* of language. As far as I know, few of them know anything of Korzybski's writings or give heed or credit, but then their theories are not all that closely related to his. They take off from primitive grammatical analysis, attempting to go to the roots of language to discover laws of language, deep structure. It is an interesting and no doubt legitimate approach, but too much cut off from non-verbal event processes.

Thinking structure does seem a key way to the understanding of vital linguistic relationships, for instance the relationships of the ways words are used to the ways things are ordered, or are subject to being ordered in the world or in one's behavior. Form and structure affect us in subtle ways, as McLuhan suggested about media of communication. One of the most subtle examples of all may be a word itself. I suggested earlier the difficulty of identifying just what a word 'is.' (Well, of course it *is* not anything.) If you are pointing to something printed on a page or the sounds of conversation, here's a word, there's a word, these 'things' might more legitimately be called *word-forms*, rather than just words. People have difficulty with that, and it is difficult, but key to deep words consciousness.

If you see the word *W-O-R-D* on a page, that is a form you are confronting. The significance of that word or any word — its meaning, impact, stimulation, value, potential — depends upon how that (word) form is related, structured, to other forms, including the grammar-form of the sentence, and, more difficult to discern, the grammar of the paragraph and of the situation, and all of that as related to the form of the communication, including the medium, as McLuhan would have it, whether written, oral, or electronic or whatever. The message may catch attention while the overall structure captures the 'mind' or nervous system.

It seems to me that some of those who approach the world *through* language —including Wittgenstein, J.L. Austin, and Korzybski — are attempting to discover the subtleties of the linguistic structure, to break it open to discern its impacts on individual thinking, feeling, and behavior. We do not nor should we restrict ourselves to structure of language, however. We can talk of distinctive forms of discourse, entire areas of discourse, as we do of poetry and as I want to of *law talk*. This, too, is part of my theme of words consciousness. If a lawyer is talking to another lawyer or to a judge, there are constraints and restraints that come into what is said through the established form of discourse that he has chosen to use. He may not have a choice, however. We are all restricted in how we may talk if we will communicate, which is the chief justification of speaking of language. A lawyer must talk under certain further re-

straints, when he talks in court, for instance, at least when he talks to the judge. He must mainly talk law, or better, engage in *law talk*.

Well, I am just trying briefly to catalog some of the facets of words consciousness, not trying to prove any of it, or even to demonstrate it. I am assuming that it is all pretty much known to you, or at least more readily accessible to you than the uninitiated.

Closely related to words consciousness, perhaps in a chicken-egg way, is an associated cultural sensitivity. Yesterday's *New York Times*, on the page opposite the editorial page, contained a most interesting and relevant essay. The author is a woman who writes about sexist language, a species of the genre which says that our language habits are confining of women, and that one way to aid in liberation of women is to raise all persons to consciousness of the ways that language (habits) structures women into a dominant-submissive type of cultural role-relationship.

Of course the rules of word use are sociolinguistic in many more ways than the anti-sexists discern. Anyone with a liberating goal would do well to pay heed to sociolinguistics. The particular essay adds a new dimension to the now fairly familiar analysis of sexist language which would, just for instance, substitute *chairperson* for *chairman*. It points out how the formerly taboo sexual words are anti-female, being sadistic and reflective of male domination in their origins and implications. To bring such matters to consciousness tends to deprive the word-usages of their potency.

There are many ways in which one may raise his consciousness of cultural discriminations, may become culturally sensitized, as for instance to racist language. But it goes much deeper than these explorations suggest. Potentially every word has that sort of cultural significance. Thus, consider as I stand here delivering these words. I have no chair to sit on, but I can sit on the table where the lectern rests. Suppose I sit on a table in your dining room. You might censure me quite quickly and easily simply by saying, "That's a table." *Table* is not just a descriptor in that assertion, carrying implicitly the purpose of the object, the cultural function. The statement carries with it an implicit order how one should (*must*?) relate to the object.

Oh, it goes so far. It can be a very serious business, but fun too. Consider names or the ways one person addresses another, proper nouns and pronouns. The 'simplest' part of speech is the proper noun, we once were told. Thus, the word *person* refers to all alike but a name refers to one person. Well, not necessarily. That is, names are not necessarily so simple, so uni-functional, as the sociolinguists have discovered. There are rules for first naming and last naming. How is he addressed or referred to, even by those who are contemptuous: *Nixon, Mr. Nixon, President Nixon, Dick, King Richard?* The tone of voice or

the eyebrow can do it, but so can the violation of *accepted* usage. Analysis of people-naming is an aid to words consciousness, an example of it.

Well, there is a lot more to it, but this is the area of my concern. Now try to relate *words consciousness* to law. Move to *law talk*.

That very move calls for words consciousness, involves it. We speak of law — *the law*. We seem to be speaking of some-thing out there. Objectification. There is a general tendency to objectify law and rules. One way to avoid such entrapments is to convert from law to *law talk*. If you hear the word *law* or an analysis of law — and there is a lot of that these days — think in these terms: *That's law talk taking place*. Then you may more readily keep your eye on what else is going on, what the law talker is doing.

Many of the lessons that apply to everyday talk apply to law talk, of course, although there are some distinctive aspects of law talk necessarily distinguishing it from other kinds of talk. It is interesting that most of those who have given us sophisticated analyses of the uses of language have shied away or stayed entirely away from analysis of law, as did Korzybski. As valuable as is his map-territory metaphor, as much as it helps even with understanding law talk, it is not enough. For one thing it is empirically biased. Naturally enough, for it comes out of an approach to philosophy which was concerned about the linguistic dimensions of empiricism, including the goal of making language work better for that purpose. We see that in the title *Science and Sanity*. Not only incidentally, if we relate the methodology of general semantics to social science, GS makes for the skill of participant observation in each individual. Still, general semantics is word-thing oriented. Law involves more than facts, even taking account of the multiordinality of both words, *law* and *facts*.

Law talk involves norms as well as facts. Yet the form of law talk is so often in the form of fact talk. Popularized semantics points out that feeling talk often comes under the camouflage of fact talk. So does law talk. Take this piece of law talk: 'I own this watch.' That sounds like a fact, *i.e.*, it is in the form of fact talk. But there are differences in the implications of that piece of law talk. If I speak of ownership of a watch or any thing, I speak ultimately of my relationship to that thing, my *legal*, not necessarily physical, and perhaps my moral power to keep others from using or possessing it, ultimately of the protection I might think I have or can get to support that power. I am speaking against a background of rights and obligations, or that kind of assumption or expectation. Rights talk implies relationships which cannot be adequately captured in fact talk alone. Thus, for instance, proof of ownership is different from proof that the watch exists.

If we say of a person that *he is a murderer*, that sounds like a fact statement. Or compare one of numerous statements coming out of the complexity of

Watergate. After the "Saturday night massacre," it was often repeated and pretty well accepted by the mass media that Archibald Cox was an employee and that therefore the President had the right to fire him. Is that a fact? So typical of law talk, whoever says it; so typical of the dogma of law talk, and not just the law talk of lawyers. It is cultural, deep in the expectations of the public, that way of talking, based on the widespread assumption that somehow law is really that certain. If it is not, it damn well ought to be! Lawyers who might argue otherwise with that seeming fact of law would seem to be quibbling at their worst.

Most lawyers know law is not so certain as it is usually asserted to be, but their major role in many situations is advocacy, not description, to persuade, to move people to make certain decisions. Usually a lawyer does not go up to a judge and say, "Your Honor, I think the law *ought* to be thus and so." He says it *is* thus and so.

In any event, whether or not Cox was an employee in the legal sense, in the Constitutional sense, ought not to be regarded as a fact question, even if it does take that fact form. That is very hard, really, to appreciate. After all, what was he if he wasn't an employee? ("You're playing with words," says the anti-semantic.)

Well, I want to know who picked *that* as the issue which decides the basic, important questions over it all.

That is part of the magic, the power to name the question. Translate the question to an *ought*. Ask whether we *ought* to look at Cox as an employee or we *ought* not; whether we *ought* even to be concerned with that question. Maybe we want to ask what *kind* of an employee, or what his relationship was to the highest points of power. That term *employee* takes on numerous different shadings in legal dialectics.

Such is the case with the terms and doctrines of law generally, partly because they are necessarily at a high level of generality. If the rules and concepts are not at a high level of generality, then there is something wrong. Law talk cannot be *ad hoc* or specific because then it is discriminatory, to pick out an individual to be treated in a particular way different from others. So it has to rise up to a level of generality which necessarily makes it ambiguous — and manipulable.

Law discourse, being so highly manipulable, is maximally available for projection of one's personal values or moral outlook into an assertion of what the law *is*. This is stuff for deep study. The appreciation does not come easily even for students of law or for lawyers. There are so many, many examples. Not every case is an example, but most of the controversies that are played in the mass media are of that kind, including various pieces of Watergate. When President Nixon refused to turn over certain tapes in the fall of 1973, it was said he

was acting above the law. At first that was wishful thinking, later it was not, when he submitted to judicial authority without appealing to the Supreme Court of the United States. It started, if you will, as a political question and ultimated to a legal question. The matter was worked out right before our eyes. The question of how the President had to act with respect to those tapes simply had not been established in any way that candor could allow us to say the law was clear. Actually, as of today it is not clear except as to those specific tapes, unless we now wish to say that it has been established in the court of public opinion (no mean source of law), an important variable camouflaged by the popular as well as the professional dogma of law talk.

See the rhetoric of it: "*the law is this... the law is that*." There goes that '*is*' again, the '*is*' which so pervades in leading people to conclusions that other people want them to reach. There was not adequate precedent of a strictly legal or even judicial kind on which to base the dogma. The 'is' constitutes a prediction based on an '*ought*' drawn from political dynamics. Legal norms, moral norms, political norms, ethical norms — normative ambiguity, as I said at the beginning — simmer in the stew from which the dogma of law talk so often comes.

In a Constitutional situation such as this, you see, it is really deceptive to say the law *is* this or that, if we thus imply that it is clearly stated or ascertainable from a reading of the Constitution or even from past interpretations of the Constitution. A different sort of reference may be justified, for instance as to where the norms of government ought to be fashioned. Then *maybe* a prediction is justified. If we say in the early autumn of 1973 that the President was acting against the law in not producing the tapes, then we are involved in some very complicated political process. Well, I want to suggest that is very much the way 'the law' often works. That may be an advantage. I am not trying to abolish legalistic rhetoric because it has its positive values as well as negative. Indeed there are some risks in having a public fully educated, fully conscious of the way the rhetoric works.

Do not misunderstand. I would opt for ultimate candor. Ultimately, ideally, there should be a full public consciousness of the workings of law talk. But if and when we reach that ideal, we shall have needed to come to some different ways of ordering human behavior — perhaps a cultural capacity to accept more readily that the process of reaching decisions is often more important than the norms which may ascertainably precede the process.

Well, in any event, my point in going into this sort of thing is to make the suggestion or perhaps the plea that this is an area — the legal arena — in which much more work is needed or possible, for those interested in relatively new inquiries *qua* words and language.

One other comment with respect to words consciousness generally. Kendig said earlier she senses or feels a growing favorable semantic climate. Yes, in the sense of a growing support for candor complemented by a gradual raising of the cultural levels of words consciousness. Yet I must make some pessimistic reservations, at least within my specialty with respect to lawyers. Many lawyers are resistant to the kinds of analyses that Korzybski promoted or, more generally speaking, to higher levels of sensitivity as to law talk — not all, but many.

The reasons are not hard to find. After all, the language of law, as many would prefer to say, is a mechanism of power. If you dynamite it, de-mystify it, and bring a full consciousness of the ways of that language, its workings, you are engaging in a re-allocation of power. The spreading of words consciousness is an immense liberating influence. I have no doubt about that as a humanizing influence. It is a democratizing process, and I think for that reason alone well worth pursuing.

From *General Semantics Bulletin Nos. 41-43*, 1977. This address by Dr. Probert was given at the Alfred Korzybski Memorial Lecture on October 27, 1973. Dr. Probert was Professor of Law, University of Florida.

———

"Human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society. It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group ... We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation." — Edward Sapir (1929)

COMMENTS RESPONDING TO PROBERT'S "LAW TALK AND WORDS CONSCIOUSNESS"

ALLEN WALKER READ

ON THE BASIS of Dr. Probert's recent book, *Law, Language and Communication*, I realized that I was almost certain to agree with what he was likely to say in his talk this afternoon. (1) Now that I have heard him, this is certainly true. He has shown the interplay between the principles of language study and the component elements of everyday behavior. His particular field is "the law." The reciprocal feedback between high generalizations and the details out of which they are derived allows us to test our analyses.

At one place in his book, Dr. Probert asks the question, "Can one imagine law without words?" (2) Apparently it is a rhetorical question, for he gives no answer. It was intended to shake us up. Nevertheless, I would very much like to know what his answer would be. Because he has a good imagination, he may be able to imagine "law without words." But since law does commonly make use of words, the next best thing is to explore carefully what those words do.

It has been a truism since classical times to remark on the importance of language in shaping human behavior; but the rise of a scientific linguistics in the last century at last has given a basis for understanding the mechanisms that are at work. The problems in vocabulary selection have been dealt with over the centuries, but only in recent decades has the realization come that grammatical categories, both obligatory and optional ones, control the direction that

the message takes. Edward Sapir brought this awareness to many linguists from 1921 on, (3) and it was strongly reinforced by Benjamin Lee Whorf. (4) A few philosophers were able to break out of the older molds, such as Wittgenstein, Charles Morris, McLuhan, and the British group that have probed into "ordinary language." Dr. Probert has drawn upon these to advantage. I find it difficult, however, to make a coherent whole of the outlook of these thinkers. What they present are striking insights and aphorisms and wise formulations, but they lack the full systematic breadth that Korzybski has shown.

Korzybski is so sound, it seems to me, because he is aware of the neurological basis of human reactions. He did not allow himself to talk about 'the mind,' for that has habitually referred to an artificially split-off mentalistic realm. It will be noted that Chomsky, who is usually regressive to a 17th-century outlook, constantly talks about "the mind." (5) The non-elementalistic approach of Korzybski will, I believe, be recognized in the long run as a necessary base.

The division of labor in the field of linguistics has resulted in special names like *sociolinguistics*, *psycholinguistics*, *neurolinguistics*, *geolinguistics*, and others — until one begins to wonder about the boundaries of linguistics itself. A startling extension was made in 1972 when the president of the Linguistic Society of America, Dwight Bolinger of Harvard University, gave his presidential address with the title, "Truth is a Linguistic Question." (6) He pointed out that questions of appropriateness in language are constantly dealt with in linguistics, and the most fundamental of all is the question of truth. Thus, lying is a covert category or 'mood' in the linguistic system, and linguists should take it into account.

This outlook poses some difficult questions, when we realize, as Dr. Probert has pointed out, that ambiguity is the natural state for any linguistic utterance. In our use of language we are constantly engaged in the process of *disambiguation*. (Perhaps that is a new word for your vocabulary, but it is one that has recently been much used among linguists.) We are bound to be lying by the nature of the linguistic system itself. Language is the chief obstacle to the recognition of the process nature of the event world. The languages we have inherited are a *static* symbolizing of what is ongoing process and movement. Because of this rift, so difficult to bridge, we get many paradoxes. Out of this problem have developed the many attempts to transcend language, in the so-called 'non-verbal' training. This has been incorporated into the teaching of Korzybski's work. (7)

The exploring of linguistic factors that Dr. Probert is doing results in what has been called the "de-mythologizing" of law. We thereby can get at the genuinely operative mechanisms that affect and indeed determine human actions. One of my early memories, going back to the 1920s, long before I became

professionally concerned with semantics, deals with a legal term. In those years Frank Kellogg got a high reputation for his efforts to bring about the *outlawry* of war, and for them he received the Nobel Peace prize in 1929. But what is *outlawry*? It is based, I think, on word magic, for *outlawry* did us very little good. The problem that it dealt with is still with us, and men like Dr. Probert must do further wrestling with it. His emphasis on *words consciousness* is leading us in the right direction.

REFERENCES

1. Walter Probert, *Law, Language and Communication*. (Springfield, Ill.: Charles C. Thomas, Publisher, 1972), pp.xxix, 376.

2. *Ibid*., p.59.

3. Edward Sapir, *Language: an Introduction to the Study of Speech*. (New York: Harcourt, Brace & Co., 1921), pp.vii, 258.

4. Especially in papers printed in 1940-41, now available in *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf*, ed. John B. Carroll. (Cambridge, Mass.: Technology Press, 1956), pp.xi, 278, especially pp.207-270.

5. On Chomsky's reversion to 17th-century thought, see his *Cartesian Linguistics: a Chapter in the History of Rationalist Thought.* (New York: Harper & Row, 1966), [xvi], p.119. He speaks (p.32) of 'pursuing the fundamental distinction between body and mind.' Cf. also Chomsky's *Language and Mind* (New York: Harcourt, Brace & World, 1968), pp. vii, 88.

6. Printed in *Language* (Journal of the Linguistic Society of America), Vol. 49 (Sept., 1973), pp.539-550. This paper is remarkably provocative, and I have not yet decided whether or not I can accept its main contention. My view has been that the role of linguistic analysis is to clarify the issues, and the concrete answers must be worked out in each field of science, such as sociology, anthropology, biology, ethology, etc.

7. Note, for instance, the sensory awareness training that has been given at the seminars of the Institute of General Semantics, and the Panel on "Non-Verbal Communication" at the 1963 International Conference on General Semantics, New York University, as reported in the *General Semantics Bulletin*, Nos. 30 & 31 (1963/1964), pp.39-59, especially Charlotte Schuchardt Read, "Communication as Contact," pp.39-40.

From *General Semantics Bulletin Nos. 41-43*, 1977.

HORTICULTURE AS A FIELD FOR INVESTIGATION OF SEMANTIC REACTIONS

David Fairchild

It is with the greatest hesitation that I accept the invitation of my friend Alfred Korzybski to contribute to the program of this Congress at Denver. I recognize that my knowledge of the subject of general semantics is too fragmentary and too superficial to permit me to say much that will be of use in spreading the non-aristotelian system which forms the basis of the discussions at the meetings,

I recognize that perhaps I am in a rather unusual situation here in Florida; I see certain semantic difficulties here in connection with horticulture which might not be so apparent were I living in the northern latitudes and surrounded by plants with which I was familiar from my youth. Here I find myself in the midst of species which have been brought in from all over the tropical world. Many of them do not even have their names printed in Professor Bailey's *Encyclopedia of Horticulture*. Not only are the species new to America, but the people who have come here to live are new to the region. They know little or nothing about tropical plants, but they either want to know, or feel they ought to know, their names.

This creates a situation different from that in northern horticulture. Here the species which the residents want to know the names of are not what they would term just insignificant, wild, nondescript plants. They cannot overlook such plants easily without anyone's knowing they are ignorant of what botanists call them. These are species which produce fruits excellent to eat and make preserves of, or to plant for their shade or for their fragrant flowers in outdoor yards.

The people here have come down into this new world, so to say, and they are a bit bewildered by the new symbolism with which they find themselves surrounded. Some of these people insist on learning the names of the new plants, others shrug their shoulders and say, "How can anyone learn such names anyhow? It's no use trying!" Still others devise 'common' names for the species they take a fancy to and let it go at that. Of course the vast majority immure themselves in their houses with their familiar toys and amuse themselves as usual. There is a small percentage of curious-minded people in the world anyhow — curious in the sense of wishing to know what plants are named and where they come from.

It is this situation that has made me conscious that perhaps in horticulture there is a field for semantic investigation which might yield positive results. I am too ignorant of what has been done to state that I believe such an investigation would reveal something of great value, but I have a notion it might. First of all I would claim that properly evaluated, the world of plants offers a field for human activities that is much less 'emotional' in its character than the world of human beings or domestic animals. Allow me to illustrate this.

I have come down here to my little study in the early morning before my neighbors are up, thinking I would have the quiet hours in which to write this paper, a time free from any 'emotional' excitement. I see down the road a little dog coming along and I hear next door another dog yelp. (I happen to be a bit 'prejudiced' against dogs. I am ashamed of it, but I have not been able yet to cure myself of that prejudice.) So two reactions have broken the quiet of my thoughts. Now beside the road is a new large-leaved aroid which I brought back from the forests of the Philippines. It has leaves four feet across and I have built a shade for it to enable its leaves to spread and show their marvelous shape and color. I find one of these leaves is caught in the shading mat of bamboo. I have to get under it and with my hand gently pull it loose so that it will not be torn. I am 'worried' about this pet plant, but my worries are not increased by its snapping at me or barking at me or whining or even weeping. It does not say "thank you" when I release it although I can imagine it does feel grateful — if I wish to go so far in my anthropomorphization of my beautiful new aroid. I have been spared, as regards the aroid itself, any signal reaction.

Had I found one of the dogs digging a hole under it, however, there would have been a decided signal reaction, the effects of which might have lasted for days and spread to its master, even leading to a disruption of our friendly relations for the rest of our lives.

This reaction would arise not in connection with the plant itself, but because of the ownership of it or of the dog which was destroying it. I do admit that when in my walks about the place I find a special plant languishing for some reason or other I am disturbed. Like everyone I am disposed to 'blame' someone, unless I delay my reactions by remembering the long chain of events which brought the plant to where it is now and the difficulty of fixing a cause for its troubles, much less placing the blame for them on anyone.

The disturbance over the behavior of a plant does raise a ripple of unpleasantness and worry, but I believe that this worry is a very mild one indeed compared to the excitement of a whole family for weeks over the death of a pet animal. The two worlds are different in regard to producing these signal reactions. If they were not, my place here with its hundreds of different species of plants would be about the most 'emotionally' disturbing place imaginable. Just consider what this quiet garden would be like were all of the plants in it able to move around and make noises. The ordinary zoological garden would be quiet in comparison, for I have thousands of individual plants and hundreds of distinct species.

But there is another angle here. This quiet world of plants is often ignored and I have wondered if this is not the reason why. Perhaps things that can move about have a greater importance, impress the human eye and senses, more than those which are fixed in their places. Visitors who come to see my plants occasionally bring along a dog. I have noticed often that a large part of their attention is fixed on the movements of the dog and so they see very little of the plants, even though they may be taken and shown to them personally. I have observed also that when in a tropical forest there is no breeze evident and everything is quiet, a single small leaf that may be far up in the tree top will be instantly singled out by the eye if it moves or is moved by a bird or animal. The other leaves of the dense forest make no impression — are a kind of a green blur, but that moving leaf rivets one's attention and takes on an importance even though it is only a tiny current of air that is moving it. Am I correct in assuming that this may explain why so many people may live in a garden all their lives without actually seeing the plants which compose it?

Now returning to this matter of the names of the plants and the memorizing of those names for purposes of conversation about them; here we at once enter a world which is not so peaceful. One of the boys visiting the garden tried to read some of the special legends which I had placed under the trees to inform

people what they were called. Frustrated, he remarked, "Why can't the fellow write it in English so that I can understand it?" Aye, there's the rub. Why can't he?

It requires many experiences here to teach people that there are no common names in English for hundreds of these plants and that were we to try to use those in the botany books of foreign lands, there would result a confusion which would be appalling. There would be any number of *apples* with prefixes of the various countries where they came from. I have on my place what some people call *Ceylon Gooseberries, Barbadoes Cherries, Jay-pan Apples, Custard Apples, Rose Apples, Java Plums, Brazilian Cherries, Surinam Cherries, Alligator Pears,* and a host of others.

It has taken many years for the old residents here to realize that the best way is to learn the scientific names of the plants, difficult though some of them certainly are. They may gird at such names as Syzigium or Antidesma, or Casimiroa or Arikuryroba, and they generally curse the poor botanists who invented the jaw-breaking names. Generally they forget that all the time they must memorize the names of the new human acquaintances they are making. They complain because two scientific names are necessary and this has always amused me. Particularly when the complainant is a woman, I can remind them that during recent years women have insisted that their friends remember and use first names on a scale undreamed of in my childhood. I confess to a bewilderment when it comes to remembering the combination of women's names, or men's for that matter. I can recall the name of Hawkins, but unfortunately there are in the family Mary and Jane and Susan and Elizabeth and Carrie and if I mix up these names I am put down as an old doddering idiot or something as bad. I have to admit that I cannot master the names of the fifty-two cards in a deck of playing cards, much less the names of the indefinitely many combinations of cards which are involved in the plays. But why the card players should complain about memorizing the names of a few dozen plants has been a matter of wonderment to me.

Another difficulty which creeps into this quiet world of plants and brings about signal reactions is that connected with establishing their names, their symbols. If I want to raise a row among those who deal with the names of plants I have only to question the correctness of a certain name and so, the botanist who named it. The systematic botanist will bring out a book with the 'correct' name in it and under this will be a half page of names which have for good and sufficient reasons been discarded. It has taken two centuries for systematic botanists to get the names in even passable shape so that the 'identity' of almost any one of the half million plants can be determined. This has been a colossal work in the field of symbolism and it deserves to be studied by the experts in general

semantics, for there seems to be something peculiarly controversial in the field, and the play of signal reactions reaches a stage at times when personal antagonisms mount to a very high pitch of intensity. I may be criticized for saying that some of the controversies of systematists approach the bitterness of political orators. The international warfare over the principles which should guide botanists in the naming and classification of plants has not yet ceased. There are still adherents to the American Code as distinguished from the International Code.

I am too ignorant of the subject to offer any explanation of why the field of systematics in any science seems to be a field of special controversy. But I have a notion that perhaps in botany one reason lies in the fact that the word-descriptions of plants are very imperfect and that much of the misunderstanding comes about through the interpretation of those words (their over|under-defined character, etc.) which have to be used. It must be mentioned, however, that unlike the politicians the botanists have seen to it that somewhere, in some herbarium, there is carefully stored away an object, a dried specimen, which anyone can see and feel, with which the word description can be checked. The 'map' is not merely one of words; it includes a thing, a non-verbal symbol on a lower level of abstraction. It should be admitted and is by the systematists that the dried specimen is a first order abstraction which leaves out many characteristics of individual growing plants and varies in value greatly, for example, with the size of the plant concerned. A whole plant of a violet can be dried and mounted on a sheet, but what about a hundred foot palm with leaves forty feet long? Adequate photographs have in recent years been added to these specimens to make a more perfect 'map' and bring the abstraction closer to the actuality.

But this problem of abstractions, specimens, etc., does not cover the controversial field of classification. As soon as the process of generalization begins and the specimen is taken as a symbol of, let us say, a half a million individual plants in some out of the way part of the world there is ample room for honest differences of opinion between the man with the specimen and the other man who stands among the living plants themselves. Such controversies are of constant occurrence and may become very bitter.

I happen to be trying down here to get people interested in plants. I shall welcome any assistance in minimizing these destructive and disturbing reactions because they tend to turn people away from what seems to me a vast quiet world, into which those half-crazed by the insanity of the world of symbolism may enter. Here — by feeling of the plants, smelling of them, admiring their colors and forms and even tasting them — people can work their way out into the *extensional* world of living facts and leave the *intensional* world of words

and vague generalizations behind. Am I right in believing that sanity lies in this field of living things?

Years ago Mrs. Fairchild and I found some red fruits lying on the ground under a large Ficus tree on the slopes of the Volcano Lawoe in central Java. We picked them up and sent home seeds taken from them. Fifteen years have passed. The dried specimen of those fruits still remains in a vial in the collection in Washington. The single living seed which was planted beside our terrace has grown into an immense tree fifty feet high and four feet through and two weddings have taken place under it. To me this example typifies the difference between the world of living organisms and the world of static symbols. Until mankind gets away from the present preoccupation with symbols, a slavish adherence I mean, any map of a reconstructed world, such as many people seem to think should be drawn now, can scarcely have much significance. The questions of population and birth control and food supply and human misunderstanding are problems connected with living organisms — from the single microscopic cell of their beginnings to the gigantic forest tree, or to the terrifically potent rabble rousers and racketeers and dictators who move multitudes with their clever use of symbols that have no extensional reality in a scientific sense.

When I tire of the talking of people I find sanity among the quiet of the plants.

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Dr. Fairchild, a retired Plant Explorer with the U.S. Department of Agriculture, was President Emeritus of Fairchild Tropical Garden in Coconut Grove, Florida. His wife, Marian, was the daughter of Alexander Graham Bell. Dr. Fairchild's memoirs, *The World was My Garden: Travels of a Plant Explorer*, offers a fascinating extensional view of the non-verbal world of plants. He was appointed an Honorary Trustee of the Institute by Alfred Korzybski.

SOME IMPLICATIONS OF GENERAL SEMANTICS METHODOLOGY FOR SOCIAL WORK

ELEANOR PARKHURST

THE APPLICATION of the theory of general semantics in the specialized field of Social Work calls for the adoption of a new attitude toward already-existing knowledge in that field rather than for the acceptance of a new and different theory concerning it. Already many of the principles of this general theory of evaluation are more or less in use by social workers, but without that awareness of their importance and general applicability which formulation as a system with appropriate techniques can give.

The case worker has many resources at her command but the most basic of all is language. It is by means of words that the client states his problem, that the situation is analyzed, and that solutions are offered.

The skillful case worker realizes, or should realize, however, that her client's description of his problem *is not* the problem as he lives it. If the description of poverty *were* poverty (were 'the same thing' as poverty), it could be destroyed simply by destroying the description. The fallacy of identifying a given condition with the words describing it — i.e., acting as if it were the same — is obvious. It has also been found that before assistance can be properly given, a

social investigation must be made. This is done in the hope of finding important factors which may have been left out, overlooked or improperly represented by the client, and also to consider the client himself as a part of the total situation. The social worker is thus attempting to gather sufficient information so that she may first make her diagnosis and then offer possible courses of action. If this process of observing, describing and judging the relative importance of the 'facts' is termed *evaluation*, it follows that the more adequate the evaluation, the more satisfactory will the outcome be. The essentials for maximum predictability, i.e. proper evaluation, are embodied in these three non-aristotelian premises underlying the relating of words to facts:

1. *Non-identity*: A word (or series of words, a description, etc.) *is not* the object, feeling, situation, judgment, etc., described.
2. *Non-allness*: A word, description, etc., does *not* include *all* the characteristics of the object, feeling, situation, etc., described. A generalization cannot include all of the characteristics of a given situation. It may include 'enough-for-practical-purposes' or it may not.
3. *Self-reflexiveness*: A word or a series of words may be used on different levels of abstraction to talk about or to describe a word or word-series. This multiordinality of language is reflected in the multiordinal mechanisms of the human nervous system; thus, the client may show guilt over his guilt, anger at his anger, anxiety about his anxiety, etc.

The social worker properly denies that the client's description of his problem is the problem itself. Furthermore, she correctly affirms her belief that the description is less valid as a working tool than is the observation of the situation itself, and she thereby begins to establish a hierarchy of values or levels of abstraction proceeding from 'things' (observations of people and situations, etc.) to descriptions and inferences. She also recognizes that in any situation there are different degrees of remoteness from it. For example, a piece of gossip, traced backward, tends to come nearer and nearer to the life facts upon which it was based. Traced forward, it may become gradually so changed that finally it bears no resemblance at all to its original source. These steps or degrees of remoteness may be termed 'levels of abstraction' and if clearly recognized as such should never be considered identical with, or the same as, each other. The abstractions referring to direct experience are termed first-order abstractions; lower and higher order abstractions refer to words and symbols. The hierarchy proceeds from 1) the un-speakable scientific event (process level) with an infinite number of characteristics; to 2) the also un-speakable 'objec-

tive' level of sense perceptions (for instance, a desk or a toothache) as directly experienced and therefore (since we can not perceive all aspects at one and the same time) covering not-all the characteristics of the object, feeling, situation, etc.; to 3) the verbal level (description of the object, feeling, etc.) ; and finally to 4) a series of inferences (generalizations, etc.) about the abstractions of lower order, each of these inferences leaving out further characteristics.

As reminders of the tendency of words to distort evaluations, to represent only a partial picture of the facts, etc., the five extensional devices of general semantics are suggested for daily use. *Indexes* call attention to the individuality of objects, situations, etc., as well as to their similarity: i.e. $client_1$, $client_2$, etc. Indexing also keeps us aware of the different levels of abstraction on which our statements are made: of our multiordinal mechanisms, i.e. $statement_2$ about $statement_1$, etc. *Dates* compel recognition of the fact that many symbols (words) and statements do not have permanent validity: $Social\ Work_{1919}$, $Social\ Work_{1941}$, etc. *Et cetera* is a reminder that all the characteristics of an object, feeling, or situation are not included within the symbols that are used to represent it. *Quotation marks* show that a word is not to be accepted without qualification, that it may have structurally misleading implications: for example, it might be the word-choice of another person. Hyphens serve as reminders that some terms (like 'body' *and* 'mind' or 'intellect' *and* 'emotion,' 'heredity' *and* 'environment,' 'space' *and* 'time') which are customarily thought of as two separate entities are more correctly spoken of as a single unit: 'space-time,' 'body-mind,' 'intellect-emotion,' etc.

Relationship is extremely important in connection with these premises. The 'meaning' of the word *desk* or the word *fear* is derived from its being placed in a context so that its relations to other events (things, persons, etc.) are made clear, and this structural connection between the symbol (word) and the silent levels of the 'object' and the process is the only form of knowledge possible. Hence the importance of the client-worker relationship. Hence the need for placing many terms in a context (or in a relationship situation) before they can be adequately interpreted as to content on the level of life facts. Hence the 'concept' of the organism-as-a-whole-in-the-environment, as showing the necessity for being aware of the indefinite number of factors which influence a given situation.

General Semantics and the Social Worker

The study and use of the principles of general semantics can be helpful to the social worker in the development of her personal orientations and adjustments as well as in her treatment of the client. The view of the client taken by

the worker is very important: if this view is clouded or distorted by personal prejudices, ignorance, dogmatism, authoritarianism, etc., it is to that extent a hindrance to good case work.

It seems clear that a person whose business is the better adjustment of others should herself be well-adjusted. This means that a social worker should cultivate flexibility and adaptability as to time, situation, persons, etc. She must be able to maintain as clear a perspective as possible without the interference of rigid moral doctrines, infantile identifications, deep unsatisfied personal needs, etc. A 'balanced' or 'mature' person is aware of her own mechanisms or distorting factors and so has achieved a certain amount of control over them. The 'immature' person is not aware of her mechanisms; for instance because of this she may mistake her interest in social work as a profession. Instead of contributing to it, she really wishes to gain something from it — to work out her frustrations, for example, instead of helping others to work out theirs, or to assume a dogmatic authoritarian role as compensation for her feelings of inferiority. She may easily 'over-identify' with her client, which, as will be pointed out later, impairs treatment.

By a conscientious and prolonged study and use of the three fundamental non-aristotelian premises and the extensional devices, by training in consciousness of abstracting, and by constant efforts to formulate her evaluations in language which is more accurate because more similar in structure to the facts, specifically unpredictable but generally most constructive results are obtained. Among these results the acquisition of better 'mental-emotional' balance, or a more adult point of view is often noted.

For example, use of the indexes makes it possible to show, at one and the same time, the individual and the class, or to illustrate and to promote the awareness of the established fact that similarities *and* differences are co-existent. The intensional method of orientation by verbal definition which covers only similarities produces a splitting in that electro-colloidal, functional, and inter-related whole which is our nervous system when generalizations are made without differentiating observations but only in terms of the intensional generalities 'man,' 'client,' 'disease,' etc. This type of evaluation by verbal definition is predominantly cortical. Because the social worker actually deals with living individuals and not with descriptions of individuals, the intensional method does not provide for the differentiation and so the integration of thalamic and cortical functioning which is required by the facts of the situation. To do this, extensional methods of evaluation must be practiced and used; for instance, use of the *indexing*, *dating* and *etc.*, devices, introduces neurological delay of reactions and so involves thalamo-cortical integration in our evaluating reactions.

The Social Work Relationship, Treatment

The field of social work is commonly divided into three areas: social case work, social group work, and social welfare planning. Particularly in the first area, treatment is today intended to assist the culturally adequate adjustment of an individual to his environment. This emphasis upon the recipient of assistance as an individual is comparatively new. The late nineteenth century attempts to analyze '*the* causes' of poverty and dependency were followed by the beginnings of more accurate descriptions of the individual who was characterized as 'poor' or 'dependent,' as well as of the relationship which he bore to his environment.

Mary E. Richmond, who is generally considered to have ushered in this new era of 'thinking' specifically in terms of the individual and his immediate environment, wrote in *Friendly Visiting Among the Poor* (1899), that the friendly visitor was prone to forget, in working with individual poor families, that these families are also part of a neighborhood and of a larger community. She also said that visitors were likely to exaggerate the importance of those 'causes' of poverty which originated in the individual (laziness, intemperance, etc.) or, equally, to exaggerate the 'causes' which were external to him (defective legislation, bad industrial conditions, etc.). She concluded that somewhere between the two extremes lay the 'truth,' and that the personal and social causes of poverty acted and reacted upon each other in such a way that their separation was exceedingly difficult if not impossible.

One rather inevitable result of attempts to scrutinize the social situation and personality of the client was the effort to articulate 'principles' and 'standards' of social work. The report of the Milford Conference (1929) on *Social Case Work: Generic and Specific* carried on Miss Richmond's earlier (1902) search for the essential aims and methods of social case work which were more or less alike in every type of service. This report referred to the 'norms' of human life and relationships and to deviations from them which the social worker must recognize in her diagnosis and treatment. Cannon and Klein in their *Social Case Work* (1933) also referred to 'norms' which must be used in measuring the deviations that create a situation appropriate for social work study and treatment. These norms are little more than fictions, incapable of precise definition. Examples of the deviations from accepted standards of 'normal' society listed by the Milford Conference were alcoholism, crime, delinquency, illiteracy, pauperism. The Conference considered that the 'norms' associated with education, the family, marriage, personality, sex and work were typical for social case work. These norms were considered as patterns evolved in nature or social life, and as *standards deliberately produced by human 'thought.'*

A social worker must be well aware of the validity of her own standards and of those of the culture in which she and the client are associated. Their fictional nature has already been suggested and she must guard against believing in them *as if* they were everywhere and forever absolute. It is a distorting semantic tendency, also, to treat a person *as if* he were completely isolated from the world and from other persons, or to act *as if* either preventive or palliative measures alone would work the miracle of abolishing or reducing dependency, etc.

There are three main implements of social case work: the interview, the case history, the client-worker relationship.

It has already been suggested that the interview consists of a process of abstracting. The client describes his situation as he sees it, colored by countless conscious and unconscious factors, incapable of giving a total picture. The social worker listens to (abstracts from) his story and, if it is put into the case record, it becomes an abstraction of a higher order because the worker cannot reproduce the story, exactly even if she were to have it recorded by a dictaphone or made into a talking motion picture at the time of the interview.

Aware of the partial, non-allness character of the interview, the social worker attempts to gain insight into the client's personality so that she may estimate the influence of his personality upon his story and his problem. She no longer 'thinks' exclusively of his wants and needs, but of him himself and his life.

No form of recording '*is*' the interview or covers '*all*' the factors of the interview. Selection, evaluation, abstraction inevitably enter in just as they did in the interview itself. The worker must distinguish between her need to produce as 'perfect' a record as possible and the treatment purpose of the recorded material. Judgment as to the 'goodness' or 'badness' of a record must take into account the personality, experience, and training of the worker; the personality, knowledge, and attitudes of the reader; the circumstances under which the material was gained, recorded, and is to be used, and so on. These considerations form part of the context against which the 'meaning' of the record becomes clear.

Most writers agree that the material to be recorded should be selected for its relevance for diagnosis and treatment. How is this relevance to be determined when, especially in the early stages of the case development, there is very little information at hand and a most incomplete picture of the goal which is sought? The only possible answer emphasizes the need for cultivating a flexibility of attitude and an awareness of the possibility of omitting important details. The record must be written without full knowledge of the case-as-a-whole and without knowing exactly what details may or may not be important in the long run. The attributes of a 'good' record — brevity, accuracy, color,

clarity, objectivity, etc., — are essentially indefinable although they may be described at some length. They must be blended in the record in such a way as to show emphasis without producing actual distortion. The-record-as-a-whole-and-in-use must be the criterion for this blending, and even this statement has no 'meaning' except in specific situations or contexts.

In speaking of the client-worker relationship, one is mentioning something which was originally not considered at all. Later, the existence of this relationship was recognized but the professional ideal of 'objectivity' required that its place supposedly be reduced to an absolute minimum. As long as the case-work situation was defined in the additive manner as 'one person talking to another,' the client-worker relationship had little significance. When the situation was analyzed more closely, it appeared that there were repercussions upon the participants in the conversation which were to be taken into account as well as the physical setting, the client's problem, and so on.

Since the reaction of the client to the social worker is his reaction to a specific person in a specific setting, the worker is therefore helping to determine the client's response. Hence the worker cannot understand the client unless she understands herself. In this very close relationship, the worker cannot afford to interfere with the client's expression of himself. She cannot press too hard for facts, she cannot impose upon him her own feelings or desires, without impairing the relationship. The value of the relationship with a worker often arises from the differences that exist between her and her client, although there may be certain similarities present at the same time. The insecure client may gain some sense of adequacy if allowed to 'identify himself' with a secure person. For the moment, at least, he becomes adequate — even though by proxy. It is the worker's responsibility to recognize this need and its fulfillment, so that she may direct the relationship in such a way as to help the client without allowing herself to become over-identified with him.

The tendency of social workers to think in terms of levels which limit the treatment of a specific individual often means that certain social measures are totally disregarded which might otherwise be effectively utilized. To describe the providing of a job as a 'superficial' level of treatment may have 'meaning' if by it is meant merely an effort expended in modifying the environment. In the same way, 'intensive' treatment might be said to imply a treatment opportunity that had deep significance for the individual — such as a release of feelings that had resulted in a new self-acceptance and self-understanding.

These definitions are highly artificial, however, for in practice the provision of a job may have deeper therapeutic value than extensive psychotherapy. These definitions had little if any reference to the life-value or 'meaning' of certain types of services to the client and so contributed little toward effective

treatment. Countless possibilities of help to the individual are shut out by the limiting manner of evaluation illustrated here, or by the habit of reacting in terms of 'either-or.' The substitution of the orientation of different 'levels of abstraction' is decidedly constructive.

The case work process has been traditionally divided into investigation, diagnosis, and treatment — each assumed to follow the other in orderly sequence. Now, however, it appears that this process cannot be properly evaluated except as-a-whole, made up of interrelationships which, in turn, have interrelationships with the other 'wholes' about them. The separation of the process into three distinct parts is arbitrary and artificial; it amounts to a false-to-facts representation. Greater emphasis may be laid upon one or another aspect of the process-as-a-whole but the others are always present and related to it.

It has already been pointed out how, in the interview, a social worker seeks to provide a background against which the specific problem may be measured. There is also a limiting and defining background against which the social worker operates in treatment: community, socio-economic, and cultural factors determine what her methods and aims will be.

Terminology

The terminology of social work contains much of interest if regarded from the point of view of development of a language similar in structure to the facts described. *Poverty* and *the poor* were for centuries considered to be absolute terms. Upon the fact that closer analysis of these terms was necessary, rests the whole foundation of social work today. Individualization of the client, knowledge of the environment and of the inter-relationships existing between it and the individual, the increasing 'scientific' tendencies in social work, and the professionalization of social work which the emergence of principles and techniques has made possible — all of these are dependent upon a going-beyond the once 'final' words, *poverty* and *the poor.*

Social work now appears to be growing more 'scientific' in many ways — that is, proceeding by more 'objective' methods and standards, but since its essential characteristics involve individual and social relationships, the possibility seems remote of its ever becoming as 'scientific' as the physical sciences. In so far as this is true, it means that social work, instead of developing primarily as a separate field with its own 'concepts' and 'standards,' must be dependent upon other more exact sciences for its foundation. Upon this base the peculiar techniques and viewpoints of social work will be founded.

'Poverty' represents a higher order abstraction and is a *multiordinal* term. Like 'dependency,' 'poverty' has numerous contextual 'meanings.' The two-

valued orientation implied in 'adequate' and 'inadequate,' and in 'adjusted' and 'unadjusted' is misleading and unsatisfactory.

The moral, ethical and religious dogmas which have so long been attached to many of the terms of social work are quite obvious. The use of 'poor person,' 'client' and finally of 'individual' is an attempt to avoid the unfavorable semantic reactions to 'pauper' in which many persons were educated. 'Bastard' is a term now almost archaic, supplanted by 'illegitimate child,' which, in turn, it has been suggested should be replaced by a phrase indicating that this 'child born out of wedlock' is really a 'child of illegitimate parents.' Again, to avoid the unfavorable implications of the terms, some states have now substituted 'Board of Public Welfare' for 'Overseers of the Poor,' 'Infirmary' for 'Almshouse,' and eliminated 'pauper' from the statutes entirely.

The terminology of social work cannot lead to realistic 'thinking' (proper evaluation) so long as it contains words and expressions with structurally false-to-fact implications.

Space does not permit more than a brief word on the application of principles of general semantics in more restricted areas, such as family welfare or child welfare work. An efficient technique is provided by these principles for dealing with infantilism in adults which often is a source of family difficulties, and with behavior problems in children. In many instances, use of extensional methods by a social worker will prove a helpful experience to the client who might easily learn to follow this example in analyzing other problems.

The group worker, guiding and encouraging the growth of individuals through group experience, is helped by these principles to become a more effective leader.

In social welfare planning, the necessary cooperation of agencies and individuals is often hindered by a misunderstanding of methods and aims. This blockage gives way, to some extent at least, with a recognition of the meaning-difficulties inherent in the specialized terminology used by the various groups concerned. Planning also raises problems of evaluation and prediction: What are the essentials to be planned for? What are the factors to be considered in making this plan? These and similar problems may be helpfully analyzed according to the methods of general semantics.

Conclusion

This paper has attempted to suggest how many of the principles of general semantics are already in operation in the field of Social Work, in an unsystematized way, and what their contribution to that field has been and might be. In broadest terms, the 'progress' of social work has occurred — as it has in

other fields — by adaptation of the best scientific knowledge available at a given date and by developing an increasing awareness of 'the obvious' and of our unconscious assumptions. Elementalistic terms like 'poverty' have been re-examined; causes of causes of causes, etc., of 'dependency' have been found which — if carried far enough — lead directly to the whole social order. The emphasis has changed from personal causes of 'pauperism' *alone* to external and impersonal causes *alone*, and finally to a combination of both which had been separated artificially due to *either-or* orientations, elementalistic terminology, etc. The definition of 'environment' or 'setting' has been stretched and broadened until it seems literally to have no limits. Even in so comparatively small a part of social case work as the interview, the processes of abstraction and evaluation are found to be highly important. Just as the attributes of the case record form a whole which is not to be disentangled except for purposes of clarification, so the case work process must be considered as-a-whole — each part related to every other and to social work itself. The importance of proper evaluation on the part of the case worker has been pointed out, and one way of achieving more nearly 'correct' evaluations through the elimination of harmful identification caused by confusion of orders of abstraction has been suggested.

These and many other instances of the indirect or unwitting application of principles embodied in the system of general semantics may be found in social work theory and practice. It may well be argued that if such 'progress' as has already been made in the field of social work is based on the unconscious use of these principles, still further 'progress' may be hastened and made to touch on more aspects of that field by the direct and conscious application of this general methodology.

Finally, it must be said that the problems with which social workers deal are by no means 'solved' by the adoption of a new structurally correct terminology or a new viewpoint. The non-verbal facts of the needs of poor, sick, aged, etc., individuals have changed very little, although our understanding of them has gone through varying degrees of evolution which is reflected in social work training and practice. To this evolution, the general theory of values and the extensional method with which general semantics is concerned seem able to contribute heavily.

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Ms. Parkhurst worked with the Rhode Island Children's Friend Society, Providence, Rhode Island.

GENERAL SEMANTICS IN THE PRACTICE OF A CONSULTING PSYCHOLOGIST

HARTWELL E. SCARBROUGH, PH.D.

IT IS NOT MY FUNCTION, I feel, to repeat general formulations of neuro-semantics. Rather, I would like to answer the queries of a certain number of professional people interested in applying techniques of general semantics. These people usually say, "I understand these formulations, but how would I apply them in a particular case?" It is this 'how' or methods that I would like to talk about.

The group of people with whom I have found that general semantics techniques work the most rapidly and efficiently and with whom I have been able to rely on general semantics exclusively in therapy, are the people with frank, open conflicts. For instance, the kind of person who comes in and says, "Such and such is bothering me. What am I going to do about it?" With such people I have, of course, used most of the principles and techniques described by Alfred Korzybski in *Science and Sanity*, relying especially on training in consciousness of abstracting and use of the extensional devices. I believe that this should be done in its entirety whenever there is time. Unfortunately, in life there is generally not time, and I have developed some of the following ways of using the techniques whenever a rapid extensionalization is needed.

A number of people come in with a problem involving a specific 'hurt' and with few other general personality complications.

Case 1:

J.A. reported that he was happily married, had a good job, and enjoyed his social life. In fact, everything in his present situation was very fine, but he worried about his wife's 'past.' His wife's 'past' boiled down to the fact that she had had sexual relations with another man in 1929, several years before he had married her. I asked him to write out how he felt about this. Here is the crux of what he had to say:

> To me a girl who has committed an immoral sex act is incredibly foul and unclean. It is a thing once done that can never be atoned for. There are no reasons to justify it and no punishment adequate. She should be stamped out as one would a horribly repulsive snake ... There is this leprous sore on her body which no amount of pretending will eradicate.

Because of circumstances, this man was able to see me only two hours a week for four weeks. I spent the opening two hours in explaining to him levels of abstraction and in showing him how to write and talk in lower, more differentiating levels of verbal abstraction. As soon as it was evident that he knew the difference between high inferential levels of abstraction and more differentiated levels, I put him to work on his own problems, re-writing his 'thalamic' outburst about his wife's 'past' in extensional terms of what had actually happened. The strong language he used previously simmered down to "organism *X* in 1929 had sexual relations with organism *Y*." With the formulation of the problem in these terms, his 'feelings' were greatly altered, his whole evaluation was changed, and at the end of eight hours, he felt there was no longer any 'hurt' existent. I have seen him ten months later, and he reports no recurrence of the problem.

Case 2:

C.S. could not seem to understand general semantics formulations and exhibited a condition which would ordinarily be labelled "dumbness." I was trying to help her with a severe depression. I asked her to write down for me what she was saying to herself when she got up in the morning feeling depressed. Here is some of what she wrote:

> I am so damned fat I can't move, I feel like a stuffed toad, and look worse. My house is positively filthy and I can't stand it. I have to go to that crazy party tomorrow and I haven't a decent thing to put on. My hair and nails need doing. My car is about to fall apart. I doubt if I can make it. Barbara phoned and said her heart is broken.

I was able to show her what is involved in extensionalizing problems on lower levels of verbal abstraction. Here is how she re-wrote the above after this demonstration:

> I weigh one hundred and fifty-five pounds and am five feet three inches.
> The house is dirty.
> Tomorrow I am going to a party.
> My hair and nails need doing.
> My car needs washing and the tires checked.
> Holly didn't propose to Barbara.

She reported 'feeling' improved after this re-formulation, and after steady practice in doing this sort of thing, her depression cleared up.

It can be easily seen that the above technique involved the application of very elementary "ABC" knowledge of general semantics. It involves:

a. translating fluid, uncritical, verbalizing into writing — a static medium

b. involving the visual and kinesthetic senses, and

c. putting inner speech into a form where assumptions, inferences, etc., can be verified, and then

d. altering these assumptions and inferences by reducing the levels of abstraction.

Now I am reporting these cases because I presume that a large number of us are interested in general preventive educational procedures and a very small number of us would be interested in deep, complicated cases. A great amount of work in preventing countless maladjustments, verbally produced illnesses, etc., could be accomplished by use of the above described extensional procedure and this could be done by teachers, scout leaders, parents, educational counselors, etc. The only qualification I would make for this is that the case be chosen wisely. The case must not have an anxiety neurosis, be psychotic, be 'dead thalamically,' or be acutely over-verbalized. To use Horney's terminology, he must have a "situation neurosis" and not a "character neurosis." (1)

Another variation of this simple procedure consists in showing the patient how we build up conclusions, generalizations, etc., from first order observations and in making him conscious of the differences between high order inferences, conclusions, generalizations, etc., and first order facts. Then we apply this technique to some obviously faulty generalization of the patient.

Case 3:

D.E. said, "People don't like to hear me stutter." When we broke this down to the underlying observations, it was discovered that an individual, John Smith, had said that it made him feel a little ill at ease to hear D.E. stutter. Upon changing his generalization to fit first order observations, he underwent favorable change in his general orientation toward his speech problem.

Case 4:

C.F. stated with some finality that girls would not go out with a stutterer. Again, I asked him to write down some first order observations.

a. List the girls you've been out with.

b. Make a written report on the question of whether other stutterers at his school dated girls or not.

c. Write up the results of a telephone survey to be conducted by him to determine whether certain specific females would date him.

Needless to say, when these observations were tabulated, he was forced to change his generalization to a more valid and hopeful one.

I generally tell people who appear to be making a large number of questionable inferences, such as the above mentioned cases, to write down the generalization or inference that is giving them trouble. The sheer looking at it quite often causes them embarrassment, etc. They decide to give it up, but with most of them, we have to go further. I tell them to draw a line under the inference, make a heading, "Supporting Observations," and then construct a list. The experience of seeing on paper *inferences* that are directly contradicted in most cases by *observations*, is very beneficial and, of course, introduces the correct order of abstracting. This procedure has great applicability in light cases of inferiority feelings, for instance, those we see in great numbers in college populations. Generally you will find at the bottom of the inferiority complex, some such improperly abstracted inference as "People don't like me," "I am socially

inferior," etc. And if the case is not too deep, the above procedure carried out on many inferences over a period of time will induce a complete re-evaluation.

Another good extensional procedure is to have the case write his autobiography. This in itself gives insight and furnishes a certain degree of extensionalization. Further extensionalization will be gained by getting the patient to read this autobiography to you. Favorable therapeutic factors here are oral reading with consequent hearing by the patient of his own verbalizations and so evaluations and the situation of having to verbalize them in the presence of a second person. In going over this autobiography, certain 'hurts,' 'shocks,' etc., will be uncovered. The patient in many instances will cry, become tense, get shaky-voiced, etc. You are probably then dealing with a 'hurt' or 'shock' which is still persisting in the nervous system in some repressed form. I have people write about these 'hurts,' sprinkling their writing with dates and indexes and substituting terms with no 'thalamic' associations such as 'organism X' for the names of parents, siblings, etc. I have them do this until they can talk to me and themselves with no noticeable 'thalamic' upset.

Case 5:

G.F. was a manager of a shop which was getting an increasingly educated clientele. This was upsetting because she has a great dislike for 'education.' This turned out to have originated in the year 1909. In that year, she was attending grammar school and liking it very much. Her mother made fun of her for wanting to go to school. There were two particular occasions she remembered very bitterly. Once she had made some drawings at school which were on exhibition. Her mother made fun of them and refused to come to school to see them as the parents of the other children did. On another occasion she was chosen to take part in the school play. Her mother refused to come to see this. G.F. told of these experiences with great affective disturbance; tears, anger, etc. She was instructed to write about them at length using dates, indexes, and differentiating language.

When she came in after doing this, she said she did not feel different and so I asked her to read to me what she had written. She had peppered her writing with dates so that it went something like this:

$Ethel_{1909}$, $Father_{1909}$, $Mother_{1909}$, $school_{1909}$, etc.

When she finished reading this to me, she said, "Now I know what we are trying to get at. I feel like that was a different person to whom all these things happened."

Generally speaking, most cases can be considered over-verbalized, but relatively, there are certain cases with whom you get the impression that an acute

over-verbalization constitutes the major symptom. These people talk extremely rapidly, frequently, and for a long time. They are quick, undelayed, and generally 'know all' about 'everything.' In many cases they may have an organic symptom which has been diagnosed as "psychogenic" by a physician and which they have acquired by reacting to an 'idea' instead of sense data.

With such cases I immediately begin to talk about consciousness of abstracting and the correct order of abstracting, and I generally hand them some object on the desk such as an ash tray or letter opener and show them how to investigate it silently, telling them to put it down as soon as they start to form words. In the beginning they will not be able to achieve this at all, or only for a few seconds, and will insist that you cannot investigate without using words; but with steady persistence, the length of time during which they can investigate silently increases and a remarkable change takes place in their semantic reactions. They become quieter, speak less and with frequent qualifications, etc. The writing techniques that I have described above will not work at all with these cases because their problem is over-verbalization, and you must begin below verbalization or their nervous processes will distort what they are doing,

Case 6:

B.R. knew too much about herself for her own good. She 'knew' she did not need therapy, that one or two lectures and a cursory reading of Johnson's *Monograph Number 1* had given her all the information there was to have about general semantics. (2) She would drop in for her conferences a month or two apart and spend her time trying to convince me that there was really nothing wrong with her, asking for techniques that would clear her up in a few weeks. During some of these conferences, I told her that she was over-verbal and that she would have to learn to 'shut up.' I did not get an opportunity to go into this mechanism very deeply with her, so she simply repressed and then, when she did talk again she was worse than ever.

Finally, one day I handed her an inkstand to investigate silently. This enraged her, She said, "If I did not know you well, I would leave the office now." But she made an effort to investigate the inkstand. When she tried to investigate, she was still verbalizing inside and her lips moved. I finally got her to the point of investigating for a few seconds without forming words, and this was the turning point in her case. She went home and spent the whole weekend becoming acquainted with her home surroundings on the silent level. On Monday she returned, ready and willing for a long psychotherapy, and from that day on she improved markedly. She became really quiet inside, more delayed in her

reactions, less tense, less resistant to analysis of her basic patterns of evaluation.

I want to report a shift that has occurred in 1941 in the kinds of difficulties I see in my work. I do not know whether this shift is due to local or personal factors alone, or whether it is a reflection of the world situation. The facts are that in 1940 'anxiety' cases comprised about eight or ten percent of my total case load; whereas in 1941, more particularly at the present time (July), anxiety neuroses make up ninety-five percent of my total case load. For a full, beautifully detailed picture of this type of disturbance read Karen Horney's *The Neurotic Personality of Our Time*.

In brief, such people manifest a diffuse, floating, generalized type of anxiety. They have symptoms which apparently have nothing to do with any previous negative conditioning. They are totally unaware of their underlying conflicts and may maintain that they have had a healthy and 'normal' life. But, like one of my cases, they may tremble when they pick up a Coca-Cola glass; or like another, they may go back five times to shut the gas off; or like another, they may tremble in traffic, although they have been driving well for thirty years previously.

I divide these people's therapy into two stages. In the first stage, lasting for about a month, I use a very active form of analysis utilizing autobiographical data, free association, results of the Rorschach test, to help make the case aware of his underlying conflicts. I am still working on methods of speeding up this period, and I shall not report on this stage of therapy because I am still formulating my views as to treatment. However, in trying to reconcile the gap between people's unconscious motivations and their conscious verbalizing, I have found Korzybski's cortico-thalamic formulations to be of immense value. As soon as the individual is actively aware of his basic conflicts, I introduce general semantics formulations with extensional techniques, and then the patient begins to show great progress. At the end of the first stage he is generally upset, tense, greatly disturbed by his self-revelation. I often get from psychoanalysts people who are in such a phase. They have gained excellent insight, they know a tremendous amount about themselves, but they do not know what to do about it. Their answer at this stage is, "So what?" General semantics, I have found, offers the answer to the "so what?"

The following is a summary of the results of my application of general semantics techniques during 1940. They hold essentially for 1941, with the exception I have made above for the anxiety cases.

In the first place, the use of general semantics in therapy, since the remedial techniques are built on a knowledge of invariant relations in the activity of the

human nervous system, must apply to wide combinations of neuro-linguistic and neurosemantic patternings. During 1940 I have found general semantics techniques highly workable when they were applied to cases involving the following problems: homosexuality, mild manic-depressive psychosis, 'simple' schizophrenia, severe migraine headache, alcoholism, impotency, frigidity, severe anxiety, neurosis, insomnia, mild depression, extreme infantilism, stuttering, parental involvement, marital conflict, severe phobia, and cases involving extremely undelayed mechanisms.

Secondly, it has been my experience that the use of general semantics techniques cuts down the duration of therapy to one-half or one-fourth the usual time. I can hardly believe my own statistics on the length of treatment. They show the median number of hours in 1940 was eighteen. This tallies with the experience of other clinicians who apply general semantics procedures. It must be realized that in many cases the patient abandoned his therapy prematurely with a spurious sense of recovery, and, as pointed out above, there are a small percentage of cases that do not respond rapidly to any therapy. However, it must also be observed that many significant alterations in patients' behavior were effected in a very short time. Summarizing the results of the treatment of fifty cases seen for a period of ten hours or more during the past year, I have only three cases to report in which general semantics was not useful. In three other cases the benefits seemed extremely small. In other words, the use of general semantics produced conspicuous alterations in the behavior of eighty-eight percent of the cases.

The third advantage I have noticed in the use of general semantics techniques arises logically from the second. The possibility of rapid alteration of psychopathological disorders means that the expense of psychotherapy can be greatly reduced. Since people with poor or modest incomes comprise the majority of the population, psychotherapy has now become more accessible to a new numerically vast income group. The median income of my patients treated with general semantics techniques during 1940 was one hundred-fifty dollars a month.

The fourth advantage is that general semantics methods are highly teachable. This fact alters the role of the psychotherapist. He is now more like a science teacher than a father confessor.

A final advantage is its simplicity. To understand why we use general semantics techniques you must have a grasp of all the sciences relating to man, but many clinical disorders can be alleviated without the patients' knowing this background at all. They simply must learn in an automatic way to apply the devices. This requires little formal education. I have had little difficulty in teaching general semantics devices to housewives with sixth grade education, air-

plane mechanics, household servants, etc. Of the patients successfully treated during 1940, eighty percent had no college education. In fact, I have found college education quite often a barrier to progress because it so frequently produces an over-verbalized person who is quite incapable of applying his verbal knowledge to life.

To conclude, it may be repeated that general semantics procedures appear to be unusually effective in the treatment of a wide variety of maladjustments. Aside from this basic consideration, the main advantages of these procedures are that they are economical as to time; they are, consequently, less expensive to the patient than most other psychotherapeutic methods; the procedures are highly teachable; and they are relatively simple.

REFERENCES

1. Karen Horney, *The Neurotic Personality of Our Time* (New York: Norton and Co., Inc., 1937).
2. Wendell Johnson, *Language and Speech Hygiene: An Application of General Semantics, General Semantics Monographs, No. 1* (Chicago: Institute of General Semantics, 1939).

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Dr. Scarbrough was a Consulting Psychologist in Los Angeles, California.

FOREWORD TO "SCIENCE TEACHING AND THE HUMANITIES" BY PHILIPP FRANK

Anatol Rapoport

The closeness of Dr. Frank's position, as it appears in the present article, to the point of view of general semantics is too evident to require elaborate comment. Stated in general semantics terminology, Dr. Frank's critique of our education and learning centers on its elementalistic character reflected in the rigid divisions between the 'special fields' of science and in the even more unfortunate chasm between the sciences and the humanities. A forest of ivory towers has arisen, and philosophy, shirking its modern social duty of providing means of communication between the towers of the 'special fields' and a bridge with the humanities, has instead gone into business for itself — that is, set up another tower.

Dr. Frank realizes the need for a new *orientation*. This orientation is to come through a close and critical scrutiny of the history of thought and of the methods of science. It is to come through considering science itself as a peculiar type of *orientation*, namely, one which enables us to predict and control some phenomena of nature. It is through this approach to his special science as a chapter in the book of Man that the science student can become 'humanized.'

Philosophy really need not build the bridge between the sciences and the humanities. This bridge already exists in the view of man as *a time-binder*. Philosophy need only point to it.

In showing how a philosophy of science may summarize scientific method, Dr. Frank describes among other things 'operational definitions.' Operational definitions are, of course, intimately connected with the 'extensionalization' and the 'criterion of predictability' of general semantics terminology. He introduces the connection between the symbolic postulation of Ohm's Law and reality by describing the relationship between the abstract terms of the physicist such as 'current,' 'resistance,' 'electromotive force,' and the 'everyday English' terms such as 'wire,' 'position of the needle,' etc. In general semantics terminology this translation is described as a *descending order of abstraction*, hence as *extensionalization*. The criterion of predictability likewise plays an important part in these operational definitions. "When the poles are connected, the needle *will* deflect so much. Then we say that an ampere of current is passing." Or, "when heat is applied, the gas will expand so much. Then we say that the temperature has been raised one degree." It is this constant reduction of scientific language to "if thus, then so" propositions that makes science a unifying factor in human affairs, where metaphysics has so long been a dividing factor.

Perhaps the most important of Dr. Frank's emphases is on the fact that there is no such thing as 'not having a philosophy.' The hard-boiled writers of 'practical' textbooks who maintain that they stick strictly to the facts, often exhibit a surprisingly soft-boiled, not to say addled, 'philosophy,' a metaphysics of tacit assumptions which they somehow somewhere have picked up. This is another way of recognizing that no matter what we say or how we say it, we do not speak 'facts' but rather describe our evaluations of facts, which are necessarily refracted in any metaphysics which happens to be lying around.

In the words of Poincare, "It is often said that experiments must be made without a preconceived idea. That is impossible. Not only would it make all experiment barren, but that would be attempted which could not be done. Every one carries in his mind his own conception of the world, of which he can not so easily rid himself. We must, for instance use language; and our language is made up only of preconceived ideas and cannot be otherwise. Only these are unconscious preconceived ideas, a thousand times more dangerous than the others."

Finally, Dr. Frank shows how the *symbolism* of the various 'integrative systems' are exploited by social, religious, and political groups to induce orientations in people which make them receptive to various patterns of propaganda. These observations are in our opinion of far-reaching significance. Their importance has not been generally recognized (probably because of insufficient

interest in politics among philosophers) and certainly not sufficiently stressed. Just as Hitler exploited the frustrations under capitalist democracy in his bid for return to authoritative feudalism, so the reactionary religious and political groups are trying to exploit the dramatic failure of the mechanist-materialist world view (Newtonian) in a bid for return to aristotelian orientation. Dr. Frank pointedly connects the high incidence of conversions to fascism among engineers with their very poor contact with the humanistic aspects of science.

It is indeed difficult to find a more brilliant illustration of the contrast between the static and the dynamic orientation, between the reactionary and the forward-looking, the aristotelian and the non-aristotelian point of view than in the respective attitudes toward an exploding 'system.' The reactionary says, "What did I tell you? It was wrong all the time. Now we can go back to good old -ism." The progressive or the general semanticist, having carefully dated his 'truths,' says of the dying system, "*Requiescat in pace*. It has served as it could. May the next one be short-lived."

Dr. Frank, lecturer on physics and mathematics at Harvard University, is author of *Das Kausalgesetz and seine Grenzen* (1932), *La Fin de la Physique Mecaniste* (1936), *Rozvrat Mechanisticke Fysiky* (1938), *Interpretations and Misinterpretations of Modern Physics* (1938), *Between Physics and Philosophy* (1941), *Foundations of Physics* (1946), and associate editor of *Philosophy of Science*. His book, *Einstein, His Life and Times*, is scheduled for 1947. The present paper was given at the Seventh Conference on Science, Philosophy and Religion, University of Chicago, September 9-11, 1946.

From *ETC* 4-1, Autumn 1946. Dr. Rapoport was Assistant Editor of *ETC* from the Department of Mathematics at Illinois Institute of Technology.

SCIENCE TEACHING AND THE HUMANITIES (Introduction)

PHILIPP FRANK

[Due to the length of this article, only the introduction to Dr. Frank's article follows. The full paper can be read online at: www.time-binding.org/library/etc/4-4-frank.pdf.]

THERE IS A widespread belief that the rising contempt for tolerance and peace is somehow related to the rising influence of scientific thought and the declining influence of ethics, religion, and art as a guidance of human actions. This contention is, of course, debatable. There is hardly a doubt that the causes of war can be traced back quite frequently to religious or quasi-religious creeds and very rarely to the doctrines of science. The humanities, including religion and ethics, have been for centuries the basis of education and the result has been, conservatively speaking, no decline in the ferocity of men. The scientists have never had a chance to shape the mind of several generations. Therefore, it would be more just to attribute the failure of our institutions to educate a peace-loving generation to the failure of ethical and religious leaders than to construe a responsibility of the scientists.

I do not think, however, that it makes much sense to discuss the share of responsibility. For I agree fullheartedly with the critics of science in the belief that the training of generations of scientists in mere science without making them familiar with the world of human behavior, would be harmful to the cause of civilization. Whether we like it or not, scientists will participate more and more in the leadership of society in the future. Also there is hardly a doubt by now that the contributions of the scientists to our political life has been more on the side of peace and tolerance than the contributions of the students of law or government, or, for that matter, of philosophy proper.

In order to make this attitude of our leading scientists a habit among the rank and file, it is important to imbue the future worker in science with an interest in human problems during his training period. Since for this purpose it is futile to argue for the supremacy of humanistic education over science education, the debate 'science *versus* humanities' or *vice-versa* is, of course, without point here. But it is also of little avail to compel the student of science to 'take' some courses in the departments of 'humanities.' According to the record of all people I know, the mentality of the average science student is such that he will not sufficiently appreciate these courses, and therefore not assimilate them well. What we actually need is to bridge the gap between science and humanities which has arisen and widened more and more during the nineteenth and twentieth centuries. According to my opinion, this can be done only by starting from *the human values which are intrinsic in science itself.* The instruction in science has to emphasize these values and convince the science students that *interest in humanities is the natural result of a thorough interest in science.*

In this way the science teacher will be giving his support to the whole cause of general education as well as to his specialized teaching of science.

From *ETC* 4-1, Autumn 1947. Philipp Frank was Lecturer on Physics and Mathematics at Harvard University.

EPISTEMOLOGY AND RESPONSIBILITY OF THE MASS MEDIA

KENNETH G. JOHNSON

WORKING JOURNALISTS seldom concern themselves with deeply philosophical questions or with the epistemological assumptions of their own profession. Many operate on the aristotelian assumption that their words reflect (or should reflect) 'reality.' They are disturbed by charges of 'distortion' and incensed by charges of 'bias.' They strive for 'objectivity' while admitting, reluctantly, that it is hard to attain.

With these attitudes common among working newsmen it is not surprising that most news readers (or listeners) hold similar assumptions about the nature of news and are generally uninformed about the newsgathering process.

I believe newsmen have a responsibility to themselves and to their readers, listeners, or viewers to examine their assumptions about how *they* know what they 'know' and then to share their insights with their readers. I further believe that general semantics provides a methodology for examining those assumptions in the light of modern scientific knowledge.

> General semantics is not 'the study of words' or 'the study of meaning' as these terms are ordinarily understood. It is more nearly correct to say that general semantics is concerned with the assumptions underlying symbol systems and the personal and cultural effects of their use. It is concerned with

> the pervasive problem of the relation of language to reality, of word to fact, of theory to description, and of description to data — of the observer to the observed, of the knower to the knowable. It is concerned with the role of language in relation to predictability and evaluation, and so in relation to the control of events and to personal adjustment and social integration. (1)

Let me begin with a brief analysis of the newsgathering process — first a simple local news story, then a more complex international story.

Let us assume that an event has taken place. If it is to be reported 'first hand,' a reporter must see it, hear it, touch it, smell it or taste it; that is, in one or more of these ways his senses must be stimulated by the event. His unique sensory apparatus sets the first limits on what he is able to abstract. He may be nearsighted, farsighted, astigmatic, or color blind. His hearing may be insensitive to certain frequencies, acutely sensitive to others. From what we know today about individual differences, we would also expect his sense of touch, taste and smell to be unique. (2)

The senses, though limited, convey a vast quantity of information to the nervous system which, because of its structure, selectively processes only a small portion of that information. The reporter's *semantic reactions* — thoughts, feelings, tensions, electro-chemical changes, etc., — are not to the event itself but only to those aspects that made an impact on his senses and were processed by his nervous system.

Then as our reporter tries to formulate his story, he must do it within the limitations of his language. He must chop up the continuous spread and flow of the event according to the categories available to him and relate the elements in ways specified by his language code. Note that he is limited not only by "the English language" but by his personal subset of "the English language." If he is sensitive to his readers, he will further limit himself to that subset of the English language he and his readers have in common.

Whether or not the reporter will perceive the event as a "news story" at all will depend upon his 'news values' — those guidelines he was taught in journalism school or the newsroom. Lists of 'news values' differ somewhat but most include *timeliness, proximity, significance, prominence, conflict, disaster*, and *human interest*. 'News values' serve as filters, separating 'news' from 'non-news.' They may also be a set of blinders, narrowing the reporter's vision.

If he decides this event *is* "news," he selectively abstracts from it those aspects he considers "newsworthy," probably taking notes as he does so. Later, from his notes, he will further abstract the most important and interesting parts (in his judgment) and integrate them into his news story.

His story then goes to an editor, who may tighten it up a bit, shorten it, combine it with another story, or simply discard it. The editor serves as a gatekeeper in the flow of news. If the story survives, the editor will also decide where to place the story and how large the headline should be. He, or another editor, will write a headline, usually based on the lead paragraph of the story.

Finally it appears in print. Each reader may choose to read or not read the story. Those who read may read only the headline or only the first few paragraphs. Each will abstract from it according to his own needs and interests.

Note that we have here abstractions based on abstractions of abstractions — the reader many steps removed from the event. This is the nature of news and the newsgathering process. Granted the best, most conscientious reporters and editors in the world, the process remains one of abstractions of abstractions of abstractions, etc.

Alfred Korzybski emphasized "consciousness of abstracting" as a safeguard of personal adjustment and sanity. (3) A similar consciousness is essential for personal adjustment and sane behavior in relation to the media.

Now let us complicate the picture by placing a foreign correspondent in Cairo, Egypt. His task may be to "cover Egypt." Obviously he cannot begin to observe Egypt or even a small portion of it. So he will read the newspapers (in the language or languages he knows), talk to important government and business officials (when they are available), and talk to other correspondents. The "news" that he gets is already filtered through many orders of abstraction. He then writes a 3000-word piece summarizing what he believes is important and sends it to New York. If he is writing for a wire service, the wire editor may decide that the story isn't worth 3000 words, so he cuts it to 1500 and sends it out.

An editor in Green Bay, Wisconsin, takes it off the wire, decides that local residents aren't *that* interested in Egypt, cuts it to 500 words, and writes a 6-word headline. A reader picks up the Green Bay Press Gazette, reads the headline, and may, if he is not aware of this entire process, believe he 'knows' what is going on in Egypt. But what is the nature of his 'knowledge'?

This news communication chain bears a striking resemblance to a rumor transmission chain. You have probably played the party game in which a story is whispered to one person who relays it to another who relays it to still another, etc. The final story often bears little resemblance to the original.

The news chain, unlike the rumor chain, generally begins with verified information which is transmitted in written form so far fewer distortions creep in, but there is still a tendency toward leveling, sharpening, and assimilation.

In the following paragraphs Gordon Allport and Leo Postman are describing the process of rumor transmissions. I believe they also describe the process

of news communication.

> As a rumor travels, it tends to grow shorter, more concise, more easily grasped and told. In successive versions, more and more of the original details are *leveled* out; fewer words are used and fewer items are mentioned ...
>
> As leveling of details proceeds, the remaining details are necessarily *sharpened.* Sharpening denotes the selective perception, retention and reporting of a few details from the originally larger context ... those items will be sharpened which are of particular interest to the reporters. There are, however, some determinants of sharpening which are virtually universal: unusual size, for example, and striking, attention-getting phrases.
>
> What is it that leads to the obliteration of some details and the pointing up of others? And what accounts for the transpositions, importations and other falsifications that mark the course of rumor? The answer is to be found in the process of *assimilation,* which results from the powerful attractive force exerted by habits, interests and sentiments already existing in the listener's mind. In the telling and retelling of a story, for example, there is marked assimilation to the principal theme. Items become sharpened or leveled to fit the leading motif of the story and they become consistent with this motif in such a way as to make the resultant story more coherent, plausible and well rounded. (4)

Simple messages — such as "The king is dead," or "The President has resigned" — like simple rumors, generally get through the system undistorted. As the message becomes more complex or subtle, the chances for distortion increase.

Even the original reporter who observes an event must do some *leveling* — that is, he must abstract from the event, leaving out many of the details that could be reported. He *sharpens* those elements he considers significant, unusual, exciting, or in some other way "newsworthy."

Assimilation is involved as he puts the story together "to fit the leading motif ... to make the resultant story more coherent, plausible and well rounded."

Please understand that I am not judging this *process* of news communication as 'good' or 'bad.' Leveling, sharpening, and assimilation seem to be aspects of what Korzybski called "the process of abstraction" and to be inevitable results of the structure of the human nervous system.

Not only the "man in the street" but our leaders — in government, politics, business, education, etc., — get their news, their picture of the current world situation, almost entirely through this news communication process.

The importance of accurate, dedicated, professional newsmen, with a deep sense of responsibility, cannot be overemphasized. But even with the most capable newsmen on the job, the *process* means that we will always be many orders of abstraction removed from the event, that many subjective decisions will have been made before "the news" is presented to us. Our only safeguard seems to be an awareness of the process so that we can, to some degree, allow for it.

Every news editor has far more material pouring into his office — from teletypes, beat reporters, syndicates, feature writers, PR offices — than he can possibly use. The *Milwaukee Journal*, for example, uses only 2 or 3 percent of the copy available to it. While *The New York Times* uses more copy, it also has much more available. Its slogan, "all the news that's fit to print," would be more accurate if changed to "all the news that fits, we print."

A newspaper editor's decisions depend upon the space available (the "news hole"), upon the quantity and quality of news that particular day, upon his personal set of news values, and, more subtly, upon his personal interests, values, needs, biases, etc.

The radio news editor is limited not by space, but time. "The latest world news" may consist of 6 to 10 items crammed into five minutes every hour on the hour.

"Eye appeal" plays a major role in the decisions of TV news editors.

The time devoted to an item may depend less on its significance than on the availability of film or tape of the event. Now TV news consultants, using market-research techniques similar to those used to test a new hemorrhoid treatment or deodorant, are telling station managers what the public 'wants.' These consultants generally recommend many, short, highly visual news stories (60 seconds is considered ideal). As a result, complex, non-visual stories are either given short shrift or totally ignored.

The medium also influences the degree of control you, as audience, can exercise. As a newspaper reader you can choose which stories you want to read and in what depth. As a radio or TV listener you must take the news as it comes — serially — and you cannot go back to verify what you thought you heard. On the other hand, television's visual news puts you "on the scene." It seems more lifelike and believable than words on paper. You may forget that the cameraman has aimed the camera in a particular direction for a purpose, that the film or tape you are seeing has been edited, just as newspaper copy is edited, and that the very presence of the cameraman influences "the news" he is reporting. (Remember the 1968 Democratic Convention in Chicago and the chant "The whole world is watching"?)

Furthermore, the medium is a meta-message (if not the *primary* message as McLuhan suggests). The fact that an item appears in a newspaper or on radio or TV carries with it the message "*this* is important." The length of the story, size of headline, tone of voice of the announcer, etc., are additional meta-messages.

Nicholas Johnson points out that the audience, like the editor, *must* be selective:

> The problem is no longer availability but selection. And what one chooses to use depends greatly on the communications system, especially those parts which separate, categorize, and relate information. Man's efficiency and effectiveness is substantially dependent upon his ability to identify that which is relevant in the torrent of current and stored information. We are forced now to make conscious choice of what not to know. (5)

Almost 50 years earlier, Walter Lippmann said:

> For the real environment is altogether too big, too complex, and too fleeting for direct acquaintance. We are not equipped to deal with so much subtlety, so much variety, so many permutations and combinations. And although we have to act in that environment, we have to reconstruct it on a simpler model before we can manage with it. To traverse the world men must have maps of the world. Their persistent difficulty is to secure maps on which their own needs, or someone else's need, has not sketched in the coast of Bohemia. (6)

Some time ago I read of a child's game designed to teach children about life as it is today — no matter how you put it together, you're wrong.

Every editor must have days when he feels that his newspaper, his newscast, is that game. He cannot do it 'right.' No matter how he does it he can be criticized for his story selection, placement, or length, his choice of headline sizes, use of visuals, etc., etc. And if he is wise, he'll admit that those decisions were made hastily, often intuitively, amid the clatter of teletypes and the organized confusion of the newsroom.

I say this not so much to defend the editor as to put him and the medium he serves in perspective. Human decisions — thousands of individual human decisions — go into the making of each newspaper, magazine, or radio or TV newscast. Suggestions for improving the media must be aimed at individual human beings — reporters, editors, publishers, newscasters, readers and listeners — everyone who influences or is influenced by the media.

Perhaps a word of caution is in order regarding that term 'media.' Let us not forget that the word is plural. A colleague of mine, George Bailey, has a hypothesis:

> People who write or say, "The media is against Nixon," or "The media exploits children" actually *conceptualize* the media as a singular, unitary entity — a force, often sinister.... There may be wisdom in finding oneness in everything, but good thinking remains analytical. The media are fantastically diverse in their size, location, context, nature, purpose, audience, content, process and effect. They are more different than they are alike. There is a point where generalization signifies paranoia, where categorical lumping of heterogeneous elements marks ignorance, where disintegrated language reveals disintegrated thought. (7)

In a very real sense, journalists are trained to be extensional — to check their 'maps' with the 'territory.' *Who, what, when, where, why*, and *how* are the journalists' extensional devices. For straight news stories they are told to "stick to the *facts*" — but often that admonition is given without specifying what is meant by the word *fact*, and with too little attention to the insidious problems of inference.

Journalists generally are not aware of the role of perception, of values, of language in the communication process. They are not likely to examine assumptions (especially their own), to be conscious of abstracting and projecting, to differentiate orders of abstracting, etc. In short, most are not exposed to the kinds of insights found in general semantics, much less trained in their application.

According to Kenneth Boulding, "Even at the level of simple or supposedly simple sense perception we are increasingly discovering that the message which comes through the senses is itself mediated through a value system."

> We do not perceive our sense data raw; they are mediated through a highly learned process of interpretation and acceptance. When an object apparently increases in size on the retina of the eye, we interpret this not as an increase in size but as movement. Indeed, we only get along in the world because we consistently and persistently dis-believe the plain evidence of our senses. The stick in water is not bent; the movie is not a succession of still pictures; and so on. What this means is that for any individual organism or organization, there are no such things as 'facts.' There are only messages filtered through a changeable value system. (8)

Abraham Maslow believed that "the only way we know of preventing contaminations of our perceptions of nature, or society, or of ourselves, by human values, is to be very conscious of these values at all times, to understand their

influence on perception, and with the aid of such understanding to make the necessary corrections …"

> The study of values, of needs and wishes, of bias, of fears, of interests, and of neurosis must become a basic aspect of all scientific studies. Such a statement must include also the most generalized tendencies of all human beings to abstract, to classify, to see similarities and differences, and in general, to pay selective attention to reality and to shuffle and reshuffle it in accordance with human interests, needs, wishes, and fears. (9)

Let us assume for a moment that we had a number of journalists who had (to some degree) internalized the principles of general semantics. What difference might it make in their performance?

General semantics helps one to cultivate what Neil Postman and Charles Weingartner call "that most 'subversive' intellectual instrument — the anthropological perspective."

> This perspective allows one to be part of his own culture and, at the same time, to be out of it. One views the activities of his own group as would an anthropologist, observing its tribal rituals, its fears, its conceits, its ethnocentrism. In this way, one is able to recognize when reality begins to drift too far away from the grasp of the tribe. (10)

It is just such a perspective that characterizes a professional reporter. He may be personally interested in politics, ecology, or abortion, but in his professional role he observes and describes the "tribal rituals" with the detachment of an anthropologist.

A GS-oriented reporter would not only report what was said, but would question, doubt, challenge. He would at every opportunity ask, "What do you mean?" "How do you know?" "What difference does it make?" And he would reveal to his readers when an interviewee refused or was unable to answer these questions. He would listen with a sincere effort to understand how the world looks to the other person.

He would know that he cannot be 'objective,' but he can delineate his observations from his opinions, feelings, inferences, etc. He would, therefore, make sharp distinctions among straight news, interpretive reports, and investigative reports based on the orders of abstraction involved.

Straight news involves observing (events, quotations, records, documents) and describing what is observed. The McCarthy era dramatized the limitations of this approach. When Joe McCarthy made wild charges on the Senate floor, his words were duly reported. (It is difficult to ignore serious charges by a U.S.

Senator.) In the straight news format there was no provision for pointing out that he had often made charges before that had proven false or exaggerated.

Interpretive reports involve not only observation and description, but interpretation. Since this involves considerable judgment on the part of the reporter he should (a) have some expertise on the subject, (b) support his interpretations as best he can with background data, cases, examples (lower order abstractions) and careful reasoning, and (c) label the story "interpretive report" to alert the reader.

Investigative reports can (and I believe 'should') involve scientific method applied to journalism — observe, describe, hypothesize, predict, and check prediction with further observations. An investigative reporter may go through this cycle several times before he feels that his hypothesis (possibly revised a number of times along the way) is or is not supported.

Perhaps an example will help. Suppose a reporter in his routine coverage of City Hall discovers something that leads him to believe the mayor is profiting from certain real estate transactions by the city (his hypothesis). He might predict that "if I check transfers of titles I may be able to get some evidence." He observes — in this case the records. He finds some evidence to support his hypothesis, but not enough to prove it. So he makes another prediction: "If I interview some of the people involved in these key transactions I may get the material I need." And so on. When he finally gets enough evidence he will report, not his hypotheses, predictions, interpretations, but what he was able to observe — in the records, the interviews, etc.

These three types of stories seldom occur in as 'pure' a form as I have described them, but I believe the distinctions are useful.

One of the greatest weaknesses of the press, according to Jean-Louis Servan-Schreiber, French editor and media scholar, is that its ability to investigate is used too little.

Most of the "news" in a newspaper is about what happened the day before as dispatched by a wire service. Creating 'new' news through investigative reporting is still the exception to the rule. From time to time, the great American tradition of the crusading journalist denouncing scandals or social ills does reassert itself. *Life* Magazine exposed big-city corruption; *L'Express* revealed the actual role of the police in the 'kidnapping' of the Algerian Ben Baraka on a Paris street; Jack Anderson published the secret minutes of the National Security Council meetings on the India-Pakistan war, and Woodward and Bernstein of the *Washington Post* compelled national attention to the Watergate affair. (11)

Our special reporter would be less likely to be taken in by "explanations" that don't "explain." (I recently heard a speaker say, "If a person behaves thus and so we say he has a "haptic" personality." A few minutes later he said, "He

behaves thus and so *because* he has a haptic personality." Think how many problems we could 'solve' using this kind of word magic!)

In interviewing, the reporter would systematically vary the levels of abstraction. If given *generalizations, interpretations, inferences*, he would ask for *descriptions, data, cases, examples* to support them — and vice versa. In other words he would insist that his interviewee not only *talk*, but *say something*.

He would be keenly aware of the distinction between statements of *observation* and statements of *inference* — not only in his own writing and speaking, but in that of others. Often a reporter does not cover an event in person, but must rely on the reports of eyewitnesses. Here he must sort observations from inferences even though the eyewitnesses are unaware of the distinction. This takes a special kind of sensitivity to language and skill in interviewing.

He would be aware of the multiordinality of words and aware that two people using the same word may mean quite different things by it. (A number of the quotations used in this paper include the word 'reality.' In each case I have been tempted to put that word in quotation marks to call attention to its multiordinal character. It may refer, among other things, to 'reality' as I perceive it, as you perceive it, as we are able to agree upon it, as described to us by scientists, or to some 'ultimate reality' beyond our ability to comprehend.)

Being conscious of the process of abstracting, he would not pretend to know all about anything. He would be aware of the *etc.*, that follows (and, indeed, precedes) every sentence. His generalizations would be qualified to correspond to the evidence — when, where, under what conditions? Knowing something of modern field theory, he would shy away from attributing single causality to complex problems.

He would be on guard against ventriloquizing — that tendency of politicians, preachers and pundits of every variety to speak with the voice of 'God,' 'the law,' 'the people,' 'the majority of right-thinking Americans,' etc.

Being aware of the uniqueness of every human being, he would be cautious in assigning labels and attributing characteristics to groups.

He would be flexible in his application of 'news values' — not letting them serve as blinders to events in the environment not generally considered 'news.' (Until recently 'ecology' was not news.) He would be less interested in a 'scoop' than in a well-researched in-depth story.

I asked my advanced general semantics class what a GS-oriented newspaper might look like. They suggested that such a newspaper would clearly spell out for its readers its basic values and assumptions which might include: concern for human survival, interest in encouraging and contributing to the human time-binding process, emphasis on those aspects of the news that concern peace and survival; emphasis on science as a problem-solving method. It would seek

to promote harmony, not to polarize issues nor exploit dissension. In its editorial columns it would express views with conviction, supported by evidence, but it would never assume "our way is the right way."

It would publish not only content messages, but meta-messages that would help the reader interpret the message. For example, articles would be labeled *interpretive report, investigative report, column*, etc. The extensional devices of Korzybski and the 'special terms' of Wendell Johnson would be used as appropriate throughout the paper. (3 and 12) In addition, it would provide background information on writers, particularly those doing interpretation and opinion pieces, and on sources of information. It would reveal to its readers the nature of *pseudo-events* — events staged for the purpose of getting media coverage.

One student suggested that all inferences in a story would be set in italics or in some other way made to stand out. Another suggested that all reporters would be required to write in E-prime, that language variation proposed by D. David Bourland, Jr., in which all forms of the verb 'to be' are eliminated. (13)

Since the media are only one part of the communication chain, readers, too, must know how perception, language, and the process of communication operate. They must not only be media consumers, but knowledgeable critics. Postman and Weingartner, in *Teaching as a Subversive Activity,* suggest the kind of education required:

> We believe that the schools must serve as the principal medium for developing in youth the attitudes and skills of social, political, and cultural criticism. No. That is not emphatic enough. Try this: In the early 1960s, an interviewer was trying to get Ernest Hemingway to identify the characteristics required for a person to be a 'great writer.' As the interviewer offered a list of various possibilities, Hemingway disparaged each in sequence. Finally, frustrated, the interviewer asked, "Isn't there any one essential ingredient that you can identify?" Hemingway replied, "Yes, there is. In order to be a great writer a person must have a built-in, shockproof crap detector."
>
> It seems to us that, in his response, Hemingway identified an essential survival strategy and the essential function of the schools in today's world. One way of looking at the history of the human group is that it has been a continuing struggle against the veneration of 'crap.' Our intellectual history is a chronicle of the anguish and suffering of men who tried to help contemporaries see that some part of their fondest beliefs were misconceptions, faulty assumptions, superstitions, and even outright lies. The mileposts along the road of our intellectual development signal those points at which some person developed a new perspective, a new meaning, or a new metaphor. We have in mind a new education that would set out to cultivate just such people — experts at 'crap detecting.' (10)

Included in Postman and Weingartner's prescription for helping students to become 'crap detectors' is a generous dose of general semantics. Research by Howard Livingston demonstrated that general semantics instruction does, indeed, improve a student's critical reading ability. (14)

The specifically media-oriented part of such an education would examine each medium — how it works, what it does, how it influences our perceptions, feelings, assumptions and values. Students would be taught to examine the sources of their information — to look for the name of the correspondent, the press service, the authority for the statement. They would learn to look for internal clues to the nature of the story: Is the reporter describing what he saw or relaying information given to him? Does the news source have something to gain by the information he is releasing? Is the story "straight news" or is the reporter interpreting? Are there clues in his choice of words as to his position on this topic? Are propaganda techniques being used? Has the material been censored at any point? If so, by whom?

They would also learn about the influence of advertising and media ownership on the content of the mass media.

From a holistic point of view, everything in a society is related to everything else. The media both influence and are influenced by the social, political, economic, and psychological changes that take place in the society. I particularly like the term "media ecology" because it suggests just such a complex interaction and evolution. Changing any one part of this ecological system will not "solve the problems" of the system, but an element as central as mass media will certainly play a significant role in the survival or destruction of the ecosystem.

In formulating general semantics, Alfred Korzybski emphasized that the structure of language influences the functioning of our nervous systems, our sanity, and ultimately our survival. Those whose language is amplified through the power of the mass media have a special responsibility to understand the role of language structure, the process of communication, and the nature of their 'knowing.' If they then share that understanding with their readers, listeners, and viewers, they may tip the balance toward survival.

REFERENCES

1. Wendell Johnson, "General Semantics and the Science Teacher," *American Journal of Physics*, 15: pp.154-156, 1947.
2. Roger Williams, *You Are Extraordinary*. New York: Pyramid Books, 1967, 1971.
3. Alfred Korzybski, *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics*. Lakeville, Conn.: International Non-Aristotelian Library Publishing Co., 1933, 4th ed., 1958. Institute of General Semantics, Distributors.
4. Gordon Allport and Leo Postman, *The Analysis of Rumor*. New York: H. Holt & Co., 1947, pp.311-316.
5. Nicholas Johnson, *How to Talk Back to Your Television Set*. New York: Bantam Books, 1970, p.109.
6. Walter Lippmann, *Public Opinion*. New York: Free Press, 1922, 1949, p.11.
7. George Bailey, "The Media Are Among Us," *Columbia Journalism Review*, 13 (3): p.19, 1974.
8. Kenneth Boulding, *The Image*. Ann Arbor: The University of Michigan Press, 1969, p.11.
9. Abraham Maslow, *Motivation and Personality*. Second edition. New York: Harper & Row, 1970, p.6.
10. Neil Postman and Charles Weingartner, *Teaching as a Subversive Activity*. New York: Delacorte Press, 1969, p.4; pp.2-3
11. Jean-Louis Servan-Schreiber, *The Power to Inform*. New York: McGrawHill, 1974.
12. Wendell Johnson, *People in Quandaries*. New York: Harper & Bros., 1946.
13. D. David Bourland, Jr., "A Linguistic Note: Writing in E-Prime," *General Semantics Bulletin*, Nos. 32 & 33: p.111, 1966.
14. Howard Livingston, "An Investigation of the Effect of Instruction in General Semantics on Critical Reading Ability," *General Semantics Bulletin*, Nos. 32 & 33: p.93, 1966.

From *General Semantics Bulletin Nos. 41-43*, 1977. This paper was presented as the Alfred Korzybski Memorial Lecture on October 25, 1974. Dr. Johnson was Professor of Mass Communication, University of Wisconsin-Milwaukee.

ETHICS OF TIME-BINDING

S. I. HAYAKAWA, PH.D.

POPULAR ORTHODOXY about 'human nature' for the past hundred years has, by virtue of a naive, elementalistic 'materialism,' defined man as a 'selfish animal,' engaged in a struggle in which the 'fittest' survive. Had society been differently constituted at the time this definition gained its wide currency, *fittest* might not have been defined as it was. We might, for example, have pointed to the timidity and speed of the deer, and defined *fitness* to survive as superior rapidity in running away from our enemies; we might have pointed to the earthworm or the mole, and defined it as the ability to keep out of sight and out of the way; we might have pointed to the guinea pig or the oyster, and defined it as the power to propagate our kind faster than our enemies could eat us up. As it turned out, however, we pointed to the cunning of the ape and the ferocity of the tiger, and defined *fitness to survive* as the possession of such qualities as characterize the more spectacular beasts of prey. Philosophers dreaming of an *Übermensch*, financiers worshipping their 'titans of business,' and the populace cheering their gladiators — alike taking pleasure in the resemblance of the more prominent of their fellow men to the least pleasant members of the animal kingdom — felt that in the phrase "survival of the *fittest*" they had found scientific sanction for their most predatory inclinations.

It is entertaining and not altogether uninstructive to speculate on what our ideals would have been had we defined *fitness to survive* in other ways: if instead of beasts of prey, we had chosen other animals for our models. Emulating pigs has been, of course, one such ideal energetically pursued since time immemorial, although rarely with full social approval. It will be remembered that in the *Odyssey* Circe gave ingenious and practical encouragement to those who had inclinations in this direction; Homer, however, did not appear to approve of the results. In Aldous Huxley's *Brave New World* we have the picture of a non-human world such as would be designed for us by those who would have us emulate the social ants. The world, under the management of a super-brain-trust, is as well-integrated, smooth, and efficient as an ant-colony, and, as Huxley eloquently shows, just about as meaningless. I am not aware that anyone has yet suggested emulating the guinea pig in order to survive by sheer force of procreation: it would seem that here is a wide open field for people interested in developing other sub-human systems of conduct.

I do not mean to be as frivolous as I may sound. It cannot be too sharply emphasized that any talk about human "survival of the fittest" that ignores the distinctive mechanism, not shared by other creatures, by which man survives, falls inevitably into the error of interpreting the term *fittest* in an animal, rather than human, sense. If we leave unexamined what we mean by *fitness to survive*, there is no limit to the sub-human systems that can be devised: we can emulate lobsters, dogs, sparrows, parakeets, giraffes, opossums, or skunks, because they have all obviously survived in one way or another. All such systems, including our present dog-eat-dog economic system, would have one fundamental weakness in common — that of lacking, as Korzybski would say, a *dimension*. A solid may in some respects have the characteristics of a plane, but it cannot be dealt with in a two-dimensional, plane geometry. Similarly, although a human being in some respects resembles animals, he cannot be dealt with purely by means of zoological analogies. Man has an extra dimension.

This extra dimension not shared by animals is, of course, what we are accustomed to calling the 'higher,' 'intellectual,' or 'spiritual,' 'faculties' of man. 'Philosophy' through the centuries has been hung up on the dilemma of attributing this 'spiritual' aspect of man to super-natural origin, and thereby relinquishing all claim to being able to affect it by other than magical means, or of denying its existence altogether against the evidence of inner conviction to the contrary. Korzybski's contribution to the solution of this ancient 'philosophical' problem develops out of facts familiar to every student of linguistics. Linguistics has pointed out, in contrasting the signalling systems of animals with the language systems of human beings, the fact that the principal feature of the latter is the enormously greater precision of interaction and cooperation obtain-

able among individuals within the species. When, as Bloomfield observes in *Language*, "we tell someone, for instance, the address of a house he has never seen, we are doing something which no animal can do." Language is at once the product of human society and that which makes society possible. Korzybski calls attention to the fact that human beings, able to give precision to their reports and instructions, able to relay them over long periods of time, both orally and in writing, are able to increase their control over their environments from generation to generation. With this mechanism of language, we can accumulate knowledge over centuries and guide our present actions in the light of a past as far back as tradition or historical research can discover; we can also direct our efforts toward a future as distant as our imaginations can envisage. *Time*, says Korzybski, is the *human dimension*. Animals have no history beyond their own memories, no future beyond a day or a season. Man, however, is the *time-binder*.

Korzybski says a good deal in *Science and Sanity* about the importance of terms. No better illustration of their importance can be found than this term, *time-binding*. 'Mind,' 'intellect,' 'spirit,' 'idealism,' 'imagination,' 'insight,' 'inventiveness,' 'vision,' 'foresight,' etc., — all which we, in intuitive acknowledgment of their importance, have called the 'higher faculties' are embraced in this term, which gives at once a functional description of the mechanism of human survival and a prescription as to how that mechanism should operate. Without, for instance, the knowledge that we have of agriculture accumulated over time by means of our symbolic apparatus, the human race could not even feed itself. Man's tools, his machines, his textiles, his shelter, his social organizations, are alike products of cumulative endeavor: organized cooperation between the living and the dead. The prescriptive implications of time-binding arise inevitably out of the description: the greater the area of cooperation between the living and the dead in the interests of those yet unborn, the better; the more people embraced in the cooperative enterprise, the better. For this we have the testimony of history, which shows that practically every great civilization is the result of the interplay of two or more primitive cultures; we have, too, the recent testimony of science, which shows that the freer the interchange of information, the more rapid the progress. The logical outcome of time-binding, generally acknowledged as the characteristic mechanism of human survival, would be, as Korzybski says in *Manhood of Humanity*, complete cooperation the world over, complete freedom in the interchange of information, a minimum waste of effort through the duplication of scientific or industrial effort, the maximum employment of our means of communication. In such a world no human group would be completely isolated from the products of the time-binding energies of the rest of the human race; and no group would be

unable to contribute, in whatever small way, to the great human store of knowledge and experience which lies at the disposal of all.

Let us examine again the machinery by which time-binding operates. Mainly it operates through the use of symbols — language. We have learned the principle that there is no necessary connection between a symbol and that which is symbolized. The importance of this principle can hardly be exaggerated. The flexibility of the map-territory relationship means that a territory can be mapped in many ways, and that no map says all about the territory. This principle, sufficiently disseminated, would demolish for once and all the dogmatists at all levels of private and public discussion who, ignorant of the characteristics left out in any verbal formulation, know 'all about' this and 'all about' that. Furthermore, this principle relegates into limbo with the voodoomen and the witch-doctors those 'thinkers' and 'philosophers' who, unaffected either by scientific orientations since Einstein or by modern linguistic research in languages outside the Indo-European family, rejoice in the blissful conviction that their verbal categories and associational patterns — the outcome of their habituation in three or four dialects of Indo-European — are "universal laws of thought" adequate to represent a dynamic universe.

Maps can also be made that have no territory to correspond to them: these may be made in error, or they may be outright lies. But also, maps can consciously be made of territories that do not exist in order that we may, by keeping these maps before us, bring corresponding territories into existence. Such 'blueprinting' of the future could not be done if maps were not independent of the territories they stand for. That is to say, we could not set up for ourselves what we call 'plans,' 'aspirations,' 'ideals,' or 'goals' without these maps of territories-to-be. The same freedom and flexibility of our symbolic systems that make lies and mistakes possible also make ideals possible. One of the basic reasons that human beings can think in terms of distant futures, as well as in terms of the distant past (maps of territories that no longer exist) is the independence of the symbol from that which is symbolized. To a dog, the expression *hamburger today* is meaningful, if you produce the hamburger; but *hamburger tomorrow* is a totally meaningless noise. What better evidence is there of the animalistic character of some of the activities of our profit system than the fact that the exploiters of our natural resources, for instance, responded all too readily to the words *profits today*, but acted as if there were no meaning whatever in the words *devastation tomorrow*? (The *profits today* boys are still at it — acting as if the words *the triumph of Nazism tomorrow* were again a meaningless noise.)

What shall we say, then, from the time-binding point of view, of a politico-economic mess such as we live in at the present? A system in which an animalistically interpreted "survival of the fittest" is regarded as a fundamental

premise? A system in which, therefore, as Thorstein Veblen pointed out, predation by violence or by fraud is an accepted and entirely respectable method of getting along in the world, both for individuals and nations? A system in which the destruction of goods and the withholding of productive energies are engaged in as a matter of course, in spite of malnutrition and need among millions? A system in which, the liberating influences of capitalism having all but, ceased to operate, international cartels, nations, smaller business associations, and even labor leaders, taking advantage of the necessary interdependence of human beings in an industrialized world, have sought to create scarcities, to throttle competing goods and services, and to erect what Thurman Arnold has called "economic toll-bridges" in order that the few might profit at the expense of the many? A system that creates, as a result of its very structure, cleavages and hostilities between individuals and groups, the result of a universal fear that if we do not take economic advantage of others, others will take advantage of us? A system that is compelled to undergo periodic upheaval and collapse: strikes, panics, depressions, wars, and revolutions, because the institutions it creates are *structurally at variance* with the way in which human time-binding energies operate? A system that is now compelling half the peoples on earth to employ their talents, not to promote further time-binding, but to subjugate and destroy the peoples of neighboring nations with whom they should be pooling their intellectual and material resources toward the cooperative solution of their problems? On what can we build our convictions in fighting against this worse than savage state of affairs?

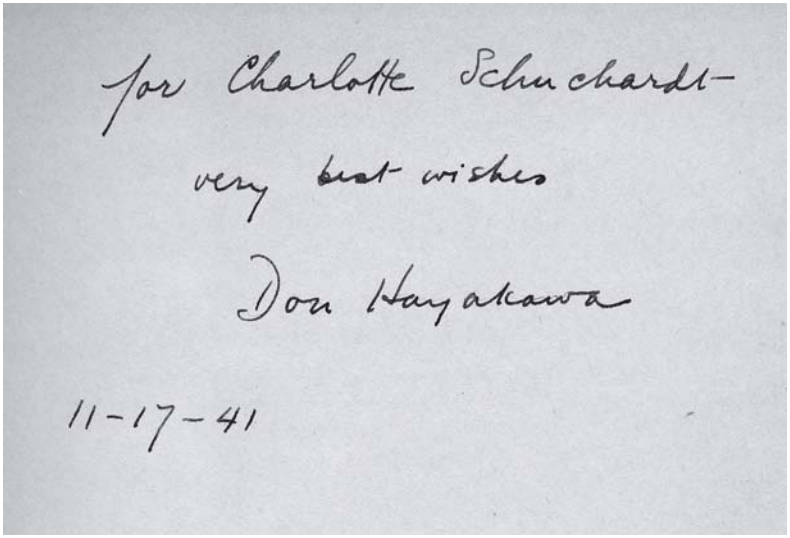
It is my belief that society can ultimately be reorganized in a way consistent with man's time-binding nature. It is also my belief that the principles upon which such reorganization can be based are already in existence and familiar to everyone — namely, the principles of democracy. Democracy, thoroughly developed and energetically carried forward in the main areas of human life, would be a form of social organization entirely consonant with the fullest realization of man's time-binding energies. Democracy, in other words, refusing to define human beings as "selfish animals" clawing each other for survival, refusing to define them as sheep or cattle, to be herded around by 'supermen,' insists upon treating human beings as human beings. To illustrate specifically, what is freedom of speech but the political recognition of Korzybski's principle that no statement ever says all about anything, and that more remains to be said about every problem? Freedom of speech also recognizes that in order that we may make fullest use of our powers of communication, the basic instruments of time-binding, we must always permit even the humblest of people to speak freely, for they may have something to say that is important for us all to know. Universal education, another democratic principle, is the recognition of an-

other principle of time-binding, eloquently developed by Korzybski in the *Manhood of Humanity*: namely, that the accumulated product of our time-binding energies — the science and wisdom of the world — are not the property of a few, but the right of all. The democratic doctrine of racial equality is but another way of saying that all human beings share, in greater or less degree, the requisite type of nervous system that makes possible the symbolic process, and therefore makes them all potentially able to share in the cooperative process of governing our destinies through the pooling of knowledge. The democratic doctrine of religious neutrality is tacit recognition of the fact that questions about "God" and the "hereafter," being incapable of solution in ways that can be agreed upon to the satisfactions of Christians, Buddhists, Mohammedans, and Jews alike, had best be left to individual discretion and not be permitted to stand in the way of practical agreements about things that need to be done for the general weal. Authoritarianism, going on the principle that most men are cattle, secures social control first by force, and secondly — and here authoritarianism pays unconscious tribute to the intelligence of all men — by cutting off the time-binding process, that is, by cutting off communications by means of censorship or the denial of education to the masses. Democracy, on the other hand, secures social control by mutual agreement, arrived at through our use of that distinctive human instrument, language.

In so far, however, as our semantic reaction systems are still crippled by superstitions, by dogmas, by identifications, by confusion of levels of abstraction, and by the habitual ignoring of contexts — in other words, in so far as we remain pathologically susceptible to slogans, shibboleths, and "headline thinking," our democratic processes of free discussion and free exchange of 'fact' and 'opinion' will do us little good. So long as we condemn, on the basis of *signal reactions*, all plans called "New Deal proposals," all candidates called *Republicans*, all schemes to which anyone applies the label *Socialist*, all people to whom such words as *Jew, Catholic*, or *labor leader*, or *capitalist*, etc., can be applied — so long as such automatic responses remain embedded in our nervous systems, our democratic practices of discussion and debate will be blocked and rendered futile. In so far as we are so lacking in imagination, that is, so attached to our customary symbolic representations, that we cannot think of economic problems except, as "economic problems," of religious problems except as "religious problems," of crime except as "crime," of relief except as "relief," etc., we can never escape the vicious circles we verbally create for ourselves that render progress impossible. Instead of arriving at agreements, we become involved in nonsense arguments, quarrels, and bitterness that tend ultimately to cast doubt upon the democratic process itself.

He who studies, teaches, and applies general semantics, then, by revealing some of the fundamental mechanisms of disagreement, doubt, quarrels, and frustration, by understanding those facts about human language and the human nervous system that force the uncertain relationships between words and things deeply into his consciousness, by conveying a sense of the possibilities that are open to the human race through the overthrow of the "tyranny of words" and the tyranny of mis-educated semantic functionings, is doing more than contributing to the education, adjustment, and wellbeing of the small group of students, friends, or colleagues who may come under his influence. He is helping to make possible the conditions under which not democracy alone, but civilization, can survive.

From *Papers from the Second American Congress for General Semantics*, August 1-2, 1941, Denver, Colorado. Dr. Hayakawa was Assistant Professor of English, Illinois Institute of Technology, Chicago, Illinois. He authored *Language in Action*, a Book of the Month selection in 1941, which he later expanded in *Language in Thought and Action*. He edited *ETC* from its inception in 1943 until 1970.



S.I. ("Don") Hayakawa's inscription to Charlotte Schuchardt inside his *Language in Action*

AVOIDING THE DANGERS OF SEMANTIC ADOLESCENCE

ANN DIX MEIERS

RECENTLY I WAS TALKING with a colleague from another college, whose point of view seemed enough like mine to make me hope that he too was sympathetic toward general semantics as a basic educational method. To my disappointment, he was not. He admitted that he had not studied it thoroughly himself. However, he said something that struck me as a challenge. He said that although it sounded good, he was not pleased with the end result of general semantics in the students he had seen. He had found many of them to be more smug, or more cynical, more difficult to deal with. He wasn't sure that it was an altogether healthy point of view to give young people.

Now, if his objection had been theoretical, I would have left it to the philosophers. But the end product as seen in the lives and language habits of young people is my business. I am in the work of training teachers — young people who will go out and teach thousands of other younger people. It is highly important to me that they should have a wholesome point of view. And as I said before, this man's education philosophy was enough like mine to assure me that he and I wanted the same end results. He was criticizing the method I use to achieve these results.

During the years since I first started using the semantic approach in my teaching, not all has been perfect, of course. But there have been results in changed attitudes and changed habits such as I had never had in my work before. These desirable results have constantly filled me with wonder and a sense of humility and gratitude to the various pioneers in semantics — most especially to Alfred Korzybski — for a discipline that has made such results possible. Students have said and have demonstrated in their actions such things as the following: "I don't get angry and argue the way I used to. I stop and analyze the language the other fellow and I are using"; or, "I begin to see how my comments on people of other races reflect old assumptions that are not based on facts"; or, "I get along with other people better than I used to."

However, in talking to my colleague, I did not satisfy myself with a verbal defense of my philosophy and method. It is not enough to prove that we have good results. It is necessary to discover what different factors the other person abstracts from the total situation. Only then can we judge the validity of our own procedures and conclusions. Where we are in error, where our method is weak or clarity of interpretation is lacking, we can correct our procedure so that our results will be more satisfying. I often think of a quotation from Alfred North Whitehead in his *Science and the Modern World*: "In formal logic a contradiction is a signal of defeat; but in the evolution of real knowledge it marks the first step toward a victory."

Therefore, I welcomed the frankness of my critic, for it forced me to stop and analyze my work. I had a definite problem to solve: *What caused the undesirable results that he saw?* We have all seen such manifestations as he objected to — possibly even in ourselves in our earlier days. I remember a paper by one of my college freshmen that began this way:

> During the early days of this course, results seemed to indicate that I was learning, "How to Lose Friends and Alienate People." Whenever I tried to put into practice the things I was learning, I always seemed to antagonize people. I knew this wasn't right, because the purpose of the course was to help us use language to get along better with other people.

The freshman girl was right. One purpose of general semantics is to help people achieve more successful human relations. It is a discipline that attempts to make the individual more consciously aware of himself and his language.

Becoming aware is a process of maturing, and it is not always accomplished without awkwardness. We know how it is with the teen-ager as he begins his physical maturing. In some cases, fortunately, the transition of adolescence takes place smoothly. But in others, the adolescent passes through a stage that is

awkward and confusing to himself and to those who must live with him. He must let go his childish dependence upon those he loves and establish his right to stand independently as a man. In so doing, he often wounds those whom he loves; for while rejecting them, he still leans upon them.

So often it is with individuals who attempt to achieve semantic maturity. They sometimes pass through a period of what may be called "semantic adolescence," in which they become generally obnoxious to people around them. Unwittingly they give critics of general semantics just cause for criticism. At the meeting of the Speech Association of America in New York in the winter of 1950, Dr. Irving Lee mentioned three stages of semantic maturity.

- First, the individual is able to recognize in others the marks of semantic immaturity.
- Second, he is able to recognize these marks of immaturity in himself.
- And finally, he is able to apply his knowledge toward his own more extensional orientation or semantic maturity.

It is the first of these that is most obvious in semantic adolescence — when he begins to recognize the marks in other people. For the learner, it may be the most exciting and over-verbalized phase, because it is the beginning of awareness. But for his associates it is hardest to bear.

But let us not think that this condition exists only in those who are students of general semantics. P.W. Bridgman found a similar problem when he demanded "operational thinking" in daily life as well as in the laboratory.

> Operational thinking will at first prove to be an unsocial virtue; one will find oneself perpetually unable to understand the simplest conversations of one's friends, and will make oneself universally unpopular by demanding the meaning of apparently the simplest terms of every argument.

But in spite of this, Dr. Bridgman goes on to say, he has faith that the final result will be good. Probably the reason a similar difficulty is noticed more frequently in students of general semantics than in others is that general semantics urges people to apply the scientific method of thinking to the language and evaluations of everyday life. And, it is in the language of everyday life that these irritations are noticed.

But we must not leave our students in this raw, adolescent stage without help. Teachers of general semantics — and that includes all who would practice and recommend its disciplines — must know the dangers and must caution and counsel the beginner, just as the trained counselor helps the boy or girl avoid

stress as he passes through his adolescence. From my years of working with students of college level and older, I have noticed several dangers of which our students need special warning. I shall mention eight of them.

1. Beware of accepting the disciplines of general semantics as a panacea, or — which is equally annoying to the listener — speaking of it with such "allness" of enthusiasm that it sounds like a panacea. It is true that there is an intense excitement accompanying a discovery that realigns our old knowledge into a new configuration. This is true in all life, not only in general semantics. One of the best classical examples is the story of Archimedes, who, while lazily floating in his bath, perceived one new fact which suddenly threw his old ideas into a new configuration. In his excitement, it is said, he ran naked into the street, shouting, "Eureka! Eureka! I have found it!" There is no record yet that any student of general semantics has displayed quite that degree of enthusiasm. However, I remember a nineteen-year-old girl who, in the midst of class discussion, raised her hand, face radiant and eyes shining, and exclaimed: "Oh this is wonderful! Now, how can we use it to save the world?" The teacher need not lose his own enthusiasm, his zest and conviction of the value of the subject; but he should warn that the student who tries to force his enthusiasm on others who have not shared his experience is likely to be labeled a fanatic.

2. Beware of using trade jargon — that is, the peculiar terminology of general semantics — in conversation with those who are unfamiliar with the terms. People are generally not sympathetic toward a person whose language puts them at a disadvantage. This, again, is true not only in general semantics. For example, much of the difficulty Sister Kenny encountered when she first brought her method of treating polio to this country has been attributed to her use of terms not consistent with the accepted terminology of medical literature. One day a student of mine came to me in disgust. "This stuff doesn't work," he said. "Last night I had an argument with my mother, and when I told her she had a *two-valued orientation* on the subject, she got madder than ever." It is indeed necessary for the beginning student to be familiar with certain terms, but he must also be helped to explain his subject in language comprehensible and inoffensive to the layman. This is not easy. When in 1944, I returned from an intensive seminar straight from the language of *Science and Sanity*, I was like one who has learned a new subject in a foreign tongue. I had to translate it into

simple English before my colleagues could understand me. This was especially mandatory since those colleagues included a metaphysical philosopher and a Freudian psychologist! However, please note: I am not criticizing Korzybski's terminology as such. I am speaking of aids for those in the throes of semantic adolescence. The time will come when they can use unfamiliar terms more wisely.

3. Beware of the "wiser-than-thou" attitude of applying classification labels to conversational remarks of other people. This was called to my attention by a friend of one of my students. He said that he and his friend discussed general semantics by the hour, and the thing he had against it was that it led people to put "classifications" on everything that was said. I learned that every time the two young men disagreed, my student would say: "Ah! that is an *inference*!" "That is a very *high abstraction*!" or being irritatingly proper: "That may be classified as a *signal reaction*." Our students usually find great pleasure in their ability to recognize higher and lower abstractions in language — especially in the language of others. To make matters worse, they sometimes act as if the higher abstractions and inferences and judgments are less worthy of their consideration than descriptive statements. Students need to be helped to use their new-found knowledge with tact, to lead their companions — where possible — to reveal supporting evidence for their high abstractions without the irritating "wiser-than-thou" attitude on the part of the neophyte semanticist.

4. Beware of complacently throwing about such terms as "*thalamo-cortical integration*," "*aristotelian logic*," and "*neuro-semantic environment*" without fully comprehending the implications of these terms. In my work with college freshmen, I know that they have not yet been students of psychology. Thus, I assume their ignorance of it and use psychological terms very, very rarely. In fact, there is only one psychological term which we discuss in full; that is the Pavlovian term *conditioning*, without which it would be extremely difficult to discuss man's reactions to verbal symbols. On the other hand, since general semantics draws from so many fields new to students, especially from various sciences, students find great stimulation to read and study in these varied fields. Said one young man, a veteran of the last war: "The only difficulty I have with the course is that I get so interested in reading in all the related fields that I haven't time left to do the assigned work in my required subjects." But not all semantic

adolescents are as wise as this young man. They often use the terms from the related fields before doing the reading.

5. Beware of exaggerating the use of the *extensional devices* to the extent of appearing ridiculous. These five little devices suggested by Korzybski — *quotes, dating, indexing, hyphens*, and the *etc*.,— are practiced inconspicuously in the everyday language of thousands of people who make no overt reference to general semantics. For instance, I have seen many speakers use the quote technique very naturally to enhance the clarity of their explanations. There is no reason why our students need to exaggerate the use of this device to the point where it looks like waving antennae or fluttering wings.

6. Beware of becoming intolerant of small talk or chit-chat. As Bridgman has suggested, this is one of the most difficult problems confronting one who demands that language be meaningful. However, it is well to remind the student that non-informative language is also "meaningful," and for its function of social communion is no less valuable than scientific language. A director of occupational therapy in a tuberculosis sanatorium told me recently that one of her hardest problems with student therapists is to get them to talk light nonsense with the patients. Yet this is highly important in therapy. Our students must remember that general semantics does not recommend one function of language to the exclusion of others, but the proper evaluation of all language.

7. Beware of the pretense of non-dogmatism that lies in merely adding "*I think*" or "*It seems to me*" to one's judgments. It is often nothing more than hiding self-righteously behind a formal qualifying expression. The crucial point that beginners frequently fail to notice is the difference between judgments of fact and judgments of value. To say "I think that food tastes delicious" is very different from saying "I think John is taller than Henry." Which boy is taller is not dependent on what I think but upon what the measurements reveal.

8. Beware of merely talking about general semantics without applying its principles in practice. The highly verbal individual who finds in general semantics a new and exciting philosophy is in danger of keeping it forever on the verbal level, thus increasing the very futility that its discipline hopes to correct.

I have spoken throughout this paper of general semantics as a discipline. As any student of general semantics understands, this is but one aspect of the subject. However, no matter how adequately one may master the other aspects, general semantics has not served its purpose until it enters into the language and evaluative habits of the individual. It is this that concerns me as a teacher, and this that my critic challenged. Our beginners — be they young or old — need to be constantly reminded of what Korzybski said: that *extensional orientation* is a lifetime process. The exhilaration that comes with the beginning of awareness is not the end but only the beginning, and the growing or adolescent stage will not always be easy. But the maturity we seek is worth the effort.

From *ETC* 9-4, Summer 1952. Presented at the First Conference on General Semantics, University of Chicago, June 23, 1951. Ann Dix Meiers taught at New Jersey State Teachers College, Montclair, New Jersey.

AFTER YOU HAVE STUDIED GENERAL SEMANTICS

WENDELL JOHNSON

GENERALLY SPEAKING, you will make applications to two large groups of problems or situations: those that are essentially personal, and those that you will call professional or relatively impersonal. A word about each of these should help somewhat.

With regard to personal problems, it is to be emphasized that over the years you have grown accustomed to your own behavior and to the people and the world about you. You have a strong tendency to take for granted whatever is thoroughly familiar to you. Your notion of what is 'normal' is, therefore, determined largely by the behavior, beliefs, attitudes, customs, social conditions which you have come to take more or less for granted as 'right' or 'natural' or 'customary.' This means that, even though you and your environment may be obviously below par, you may feel that you have no 'personal problems.' Many people become so thoroughly accustomed to the frictions, bad feelings, irritabilities, frustrations, blue moods, confusions and general flounderings of their day-to-day existence that nothing short of murder or stark insanity strikes them as peculiar. They are so utterly adjusted to maladjustment that it does not even occur to them that human life might be, except by sheer luck, different from what they know it to be. The fact that you were attracted to a book like this probably indicates that you yourself have not fallen to such a state, of course, but if the above statements serve to polish your semantic lenses a bit, perhaps you will take stock somewhat more in detail than you otherwise would of your

own daily round and of the particular 'peep-holes' that define your outlook on the world in which you live. (1)

You do have personal problems, of course. What they are, and how important they seem to you, depends on the amount of tension, misery and confusion you have learned to tolerate. Generally speaking, if you examine carefully what you call your 'big problems' you will find that they are made up of little things, which accumulate all but unnoticed until your tense back gives way under 'the last straw.' The most effective way to apply general semantics, therefore, is to sharpen your awareness of the little things and apply it to them. Not even with general semantics can you gain much by cutting the weeds after the lettuce has wilted. It is the moment-to-moment, seemingly insignificant, applications that make the greatest difference in the long run. The assignments described in Chapter XXI are designed, in part, to illustrate various possibilities of such moment-to-moment applications, and a careful reading of the book as a whole should readily suggest many more.

Aside from the problems you have which center around intimately personal concerns and relationships, you have also the problems that arise in the course of your work in a profession, or business, or in running a household; in learning a trade, a skill, a game, or in teaching something to others. General semantics can be put to use in many ways by doctors, lawyers, teachers, editors and writers, radio program directors, motion picture executives, housewives, students, merchants, etc., through the long catalog of human occupations. Wherever symbols are used and evaluations are made, wherever there are problems to be solved, use can be made of the method, the principles, the basic orientations which general semantics involves. Likewise, in the general business of being a citizen, of evaluating social, economic and political issues, of contributing constructively to the life of the community and of society in a broad sense, the value of general semantics lies in the practical use that is made of it.

General semantics contains no recipe for boredom. You are not likely ever to say of it, as you may have said from time to time of a course in history, or mathematics, or French, that you 'have had it.' At least, if ever you do say of general semantics that you 'have had it,' as though for you it were over and done with, you probably didn't 'get' it.

1. From his forthcoming book to be published by Harpers in 1945 (*People In Quandaries*).

From a mimeographed IGS handout.

Join the Institute of General Semantics

As a member of the Institute, which now includes the International Society for General Semantics, you will receive the benefits of membership of both organizations for only $40/year.

Members receive *ETC: A Review of General Semantics,* the quarterly newsletter *Time-Bindings,* and the annual *General Semantics Bulletin*. You'll also receive discounts on books, merchandise, seminars, and programs.

Membership Opportunities

❑ Student	$20	❑ Supporter	$250
❑ Member	$40	❑ Sponsor	$500
❑ Contributor	$100	❑ Time-Binder	$1000

The value of an IGS membership is $40. Contributions above this amount may be tax deductible.

❑ Gift Membership $32 • Please send a gift membership in my name, _____to:

Name: _____

Address:_____City: _____

State: _____ Postal Code: _____Country: _____

Home Phone: _____Work Phone: _____

E-mail:_____

Please attach additional sheets if purchasing multiple gift memberships.

Membership Amount: $_____

Gift Membership(s): $_____

Total enclosed or to be charged: $_____ ❑ M/C ❑ Visa

Account #__ __ __ __ - __ __ __ __ - __ __ __ __ - __ __ __ __

Expiration Date: __ __/__ __ Signature _____

Please make checks payable to the Institute of General Semantics
P.O. Box 1565, Fort Worth, Texas 76101
817-886-3746 phone • 817-886-6685 fax
www.time-binding.org • igs@time-binding.org

Electronic Archives Available on CD

The articles selected for this special expanded issue of *ETC* come from the Institute's electronic archives. These archives are now available for purchase in the following special collections. (*IGS Member prices shown, non-members add 25%.*)

***ETC* Electronic Archives, Volumes 1-60 (2 CDs), $69.00** IGS Members
This 2-CD set contains the entire catalog of *ETC: A Review of General Semantics* from Volume I No. 1 in 1943 through Volume 60 in 2003. Each issue is contained in a separate text-searchable PDF file, with the Table of Contents bookmarked. Includes full-color scanned images of all covers and a searchable Master Table of Contents.

***GSB* Electronic Archives, Nos. 1-70 (1 CD), $39.00** IGS Members
This CD contains the catalog of *General Semantics Bulletin* from Number 1 in 1950 to Number 70 in 2003. Each issue is contained in a separate text-searchable PDF file, with the Table of Contents bookmarked. Includes full-color scanned images of all covers and a searchable Index.

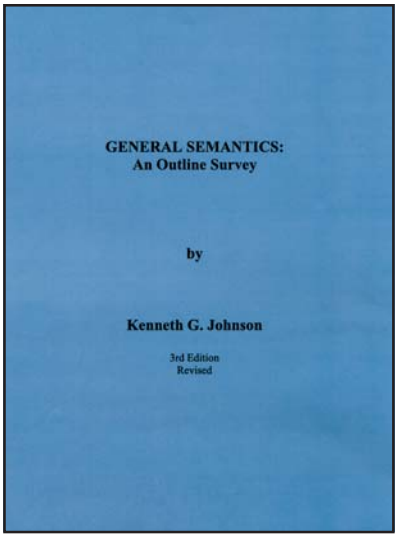
Electronic Archives Set (ETC and GSB, 3CDs), $99.00 IGS Members
Specially-priced 3-CD set containing Volumes 1-60 of *ETC* and Numbers 1-70 of the *General Semantics Bulletin*. Each issue is contained in a separate text-searchable PDF file, with the Table of Contents bookmarked. Includes full-color scanned images of all covers and searchable contents.

Works of Alfred Korzybski (1 CD), $39.00 IGS Members
This CD contains the entire published works of Alfred Korzybski in text-searchable PDF format, including: *Science and Sanity, Manhood of Humanity, Collected Writings,* and *1937 Olivet College Seminar Lectures.* As a bonus, we've also included the complete papers from the First and Second American Congresses on General Semantics from 1935 and 1941, also in text-searchable PDF format. A must for serious students and researchers.

Additional copies of this issue of *ETC* may be purchased at $10.00 each.

Order online at www.time-binding.org/store.htm; order by mail with check payable to **IGS** including $4.00 shipping/handling (U.S.); or by phone or fax with Visa or Mastercard. Texas residents please add 8.25% sales tax. Institute of General Semantics, PO Box 1565, Fort Worth, TX 76101. Phone: 817-886-3746. Fax: 817-810-01005.

Institute of General Semantics
founded in 1938 by Alfred Korzybski



New from IGS …

Kenneth G. Johnson's

General Semantics: An Outline Survey

Revised 3rd Edition

ISBN: 0-910780-21-8

This popular and widely-used text provides an indispensable resource for anyone who studies and seeks to understand general semantics. Succinct (only 50 pages!) yet comprehensive, the book provides an accessible and digestible *outline survey* of the key notions of general semantics with dozens of examples.

This new revision includes:

- Fond remembrances of author Ken Johnson by two of his foremost students, Andrea Johnson and Gregg Hoffmann
- Updated outline scheme
- Revised and updated to account for gender-neutral language, more recent and relevant examples, a description of the Structural Differential, and inclusions of E-Prime and English Minus Absolutes (EMA)
- Additional meaningful quotations — almost 60 total
- Expanded bibliography and helpful cross-reference for key topics

Published by the Institute of General Semantics
Fort Worth, Texas 2004
8½ x 11 inches, 50 pages, $10.95/$8.76 plus $4.00 Shipping
Available online at: www.time-binding.org